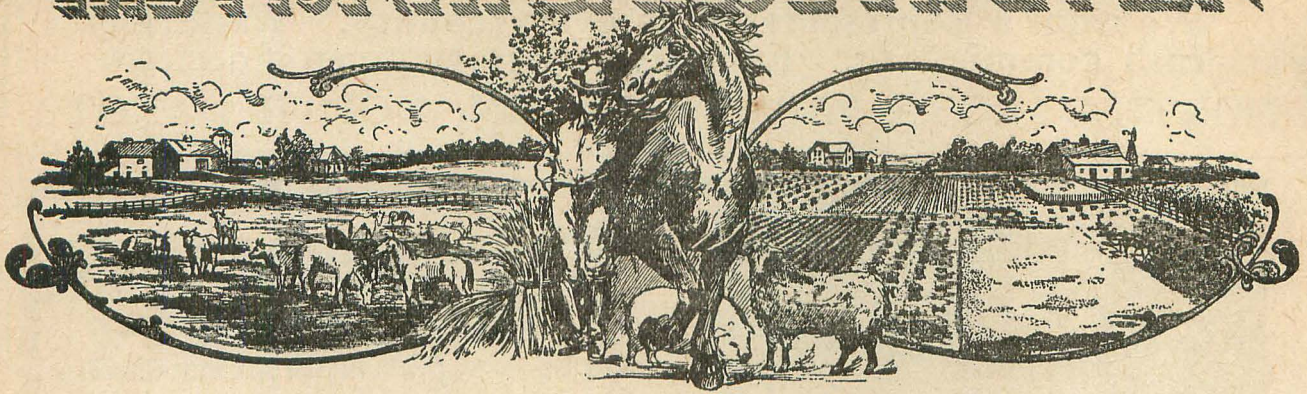


LIBRARY
UNIVERSITY OF NORTH DAKOTA
ELLENDALE BRANCH
ELLENDALE, NORTH DAKOTA

THE NORTH DAKOTA FARMER



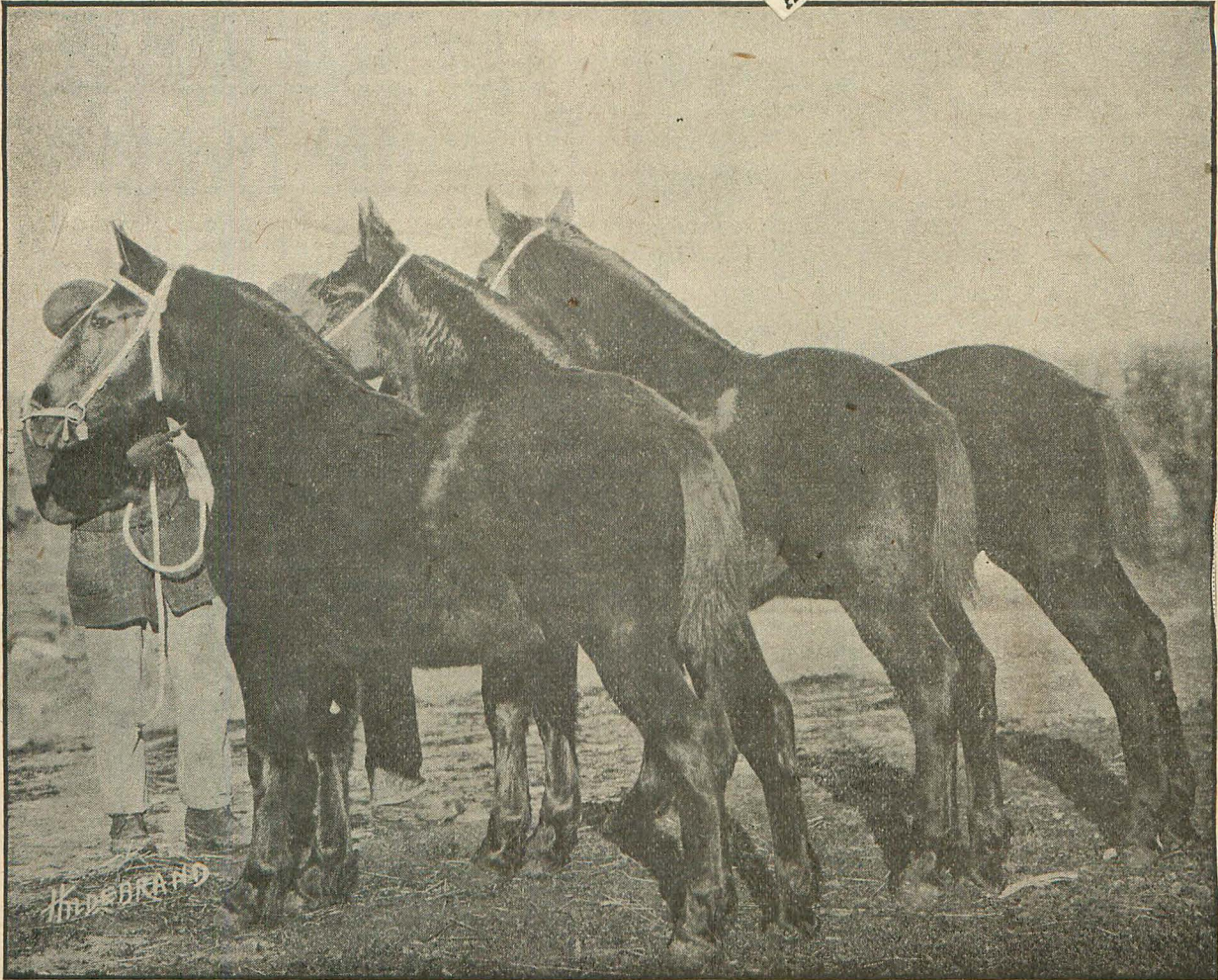
75 Cents A Year

Lisbon, N. D.

June 15, 1917

Vol. 18, No. 12

Alex Alin



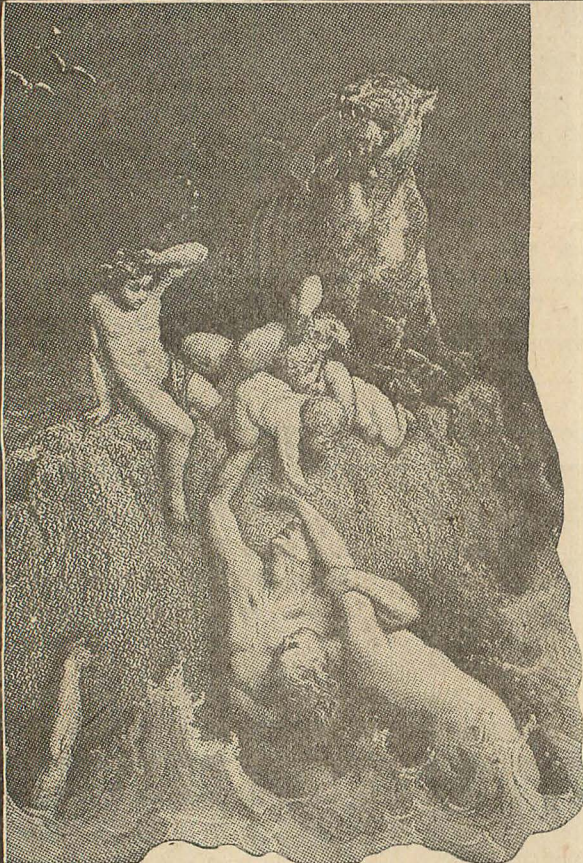
The Nearer You Get to Full Blood, the More Certain the Profits.

978.4
N814
Graham

WANTED! - WANTED! - WANTED!

We want a Representative in every county. Write for cash commissions. Exclusive territory given if desired.

NORTH DAKOTA FARMER, LISBON, NORTH DAKOTA



"The Chaldean Story of the Flood"

Dug Up From the Ruins of Ancient Chaldea

DO YOU KNOW that there has been dug up from the ruins of old Chaldea a complete story of the Flood—the same in every detail as Moses' account in Genesis—and that it was written thousands of years before his version appeared? Hardly one in a million has ever had an opportunity of seeing this startling story—HAVE YOU? But it is one of the many thousand curiously interesting accounts in

The Library of Original Sources

now for the first time available to the general public. This wonderful set will for a short time only be offered to you at a tremendous reduction on the original publisher's price. Before the price is raised on the new edition we can offer a few sets at

A Great Bargain

FREE BOOK—thousands have written for our interesting **FREE** book of sample pages and list of curious "original records." Mail the coupon now and this book will be sent to you.

Send the attached coupon **AT ONCE** and we will give you **FREE** a book of rare documents and curious inscriptions and tell of our low price offer **ON EASY MONTHLY PAYMENTS**. Mail coupon **NOW**. You assume no obligation. The book is **FREE**.

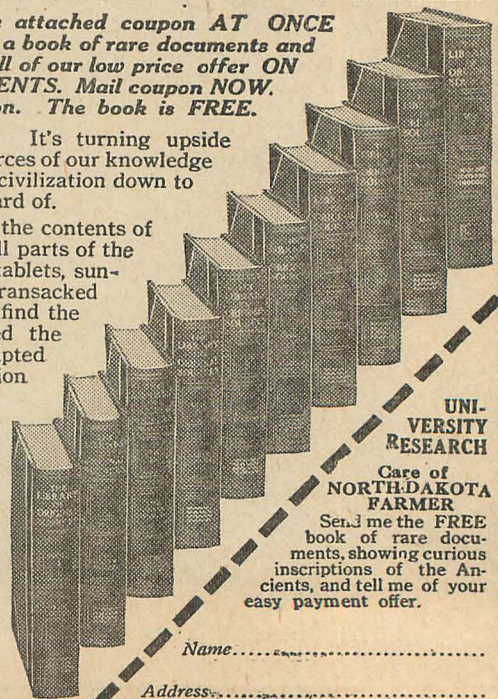
THIS MARVELOUS WORK is revolutionizing modern thought. It's turning upside down old notions and ideas. It gives the authoritative, rock-bottom sources of our knowledge on **ALL SUBJECTS OF HUMAN INTEREST** from the earliest civilization down to today—the inside facts which the average person has never even heard of.

OVER 100 RESEARCH SPECIALISTS spent ten years gathering the contents of this great work. Ancient and remote and forgotten civilizations in all parts of the globe were uncovered, and age-buried hieroglyphics on monuments, tablets, sun-baked bricks and palimpsests yielded their secrets; untiring workers ransacked the hidden literature of every age, ancient, mediæval and modern, to find the "original documents" that shaped the civilizations and influenced the thought and life of the world. Nothing like it has ever been attempted or thought of before. You'll be amazed at the wealth of information this unique library contains.

DO YOU KNOW that the old Egyptians 5,000 years B. C. had a Bible? Do you know the Assyrian literature gives the story of the Creation? Do you know that books and newspapers were printed in Asia thousands of years before printing was invented by Gutenberg? Did YOU ever read Columbus' personal log of his great voyage? Do you know that there occurred in Mediæval England the first great Socialist protest? Do you know by what unique process Harvey demonstrated the circulation of the blood? Do you know who Machiavelli was or what world famous treatise he wrote?

YOU'LL FIND THEM ALL—and thousands of others equally as curious and important—in **The Library of Original Sources**. Every document is in the exact words of the original, translated; every contribution is from the actual eye-witness or person who took part; every idea is in the words of the thinker, investigator, discoverer or inventor.

10 sumptuous, massive volumes, bound in rich, black imported India Sheep skin; full-page illustrations, pure silk head-bands, large, clear type on handmade paper, gold tops; a triumph of the bookmaker's art.



Send me the **FREE** book of rare documents, showing curious inscriptions of the Ancients, and tell me of your easy payment offer.

Name.....

Address.....

THE NORTH DAKOTA FARMER

Vol. 18, No. 12

LISBON, N. D., JUNE 15, 1917

75 Cents a Year

Vital Problems Before the Country

Extracts from An Address by Hon. W. G. McAdoo, Secretary of the Treasury, delivered in Des Moines, Ia., May 21, 1917.

(Seemingly as an answer to this appeal, the country has oversubscribed the Liberty Loan by nearly 50%—Ed.)

In the first place, gentlemen, let it be understood now that this war was just as unescapable for the American people as it is to escape the rising of tomorrow's sun. Your great President, at whose side I have had the privilege and the honor of serving for the past four years, has done everything that mortal man could do to keep this country honorably at peace. I know how his soul has been wrung with the anguish of the man whose whole thought was of humanity when he has had to face the terrible problem of leading this peaceful Nation into war. But there is a power above that of any human being, which, in these momentous crises that arise from time to time in the world's life, directs action and against which fallible man is powerless to assert himself. This is one of those crises.

Whatever the differences of opinion may have been about peace or war heretofore—and I am quite sure that there were honest differences of opinion as to whether or not America should have entered this war—I am perfectly willing to respect the opinions of those people who thought differently from me upon that great issue—this is no time to talk about that. The die has been cast, the representatives of the people of the United States, after being informed by your President of the situation, have, by almost unanimous vote, said that America must go into this fight. Now that she is in this fight, her duty to God, to herself, and to humanity is to win as quickly as possible in order to stop this horrible slaughter upon the battle fields of Europe that threatens to destroy the very soul of the civilized world.

What are we fighting? We are not fighting the German people. My friends, this is the most extraordinary war of all time. Here we find ourselves, a great people, without enmity or hostility to another great people, engaged in a war with them. We are

not fighting the German people; we are fighting the German military autocracy which is trying to enslave the world, America in the bargain. And once we succeed in the destruction of that military autocracy, self-governed peoples may in the future rest in security, because, my friends, do you realize that the one grave menace to the peace of the world for the last 40 years has been the military autocracy of Germany? We are striving for the destruction of that autocracy, not only to save America for the future, but we are, strange as it may seem, fighting in order that the German people may be disenslaved.

This is the one remaining military autocracy left, a military autocracy the like of which the world has never known, headed by an autocrat of limitless and lustful ambition, whose covetous eyes rest upon the whole world. His purpose today is world dominion. Never since the days of Alexander the Great has such an audacious scheme of world conquest been deliberately conceived and remorselessly organized by any nation. That is the thing that threatens the liberties of mankind; that is the thing that makes it necessary for America to get into this fight as the champion of liberty thruout the world, and to see that that colossal crime, as it would be if successful, is not perpetrated upon the human race.

I like to feel, my friends, when I think about this war, that it is the only kind of a war in which this great Republic could afford to engage. We would not go into any war for material ends. We would not lift a finger to take on square inch of the soil of any other nation upon the face of the earth. We do not seek to make subject any other races upon the face of the earth. We do not want any indemnities or any compensation for what we do in this war. We are fighting for an ideal, which is the only thing that makes any nation great, whether it has material resources or not, because any nation with material resources and no ideals

will in time become the prey of the conqueror. We do not intend to be drawn at the chariot wheels of any military autocrat, as poor, stricken, bleeding Belgium has been for the past three years, and as horribly devastated Serbia has been for the same time. We intend to assert the power of free America with such effect upon these battle fronts in Europe that it won't be long before the slaughter of all kinds of human beings will be stopped.

Wars involve sacrifices, as I said before. I have heard some grumbling about taxes. I have sympathy always with the feeling that we ought not to have new burdens put upon us. I don't want to put burdens upon anybody, and I certainly do not want, where additional burdens must be imposed, to have them unjustly or unfairly distributed. These new taxes ought to be equitably imposed. The difficulty about it is that everybody has got a different idea about equity. Every man has his own notion about equity; and I find, as a rule, that his notion about equity is very much distorted when his own interest is affected. That is human nature, and I am not criticizing human nature. The man who does not reckon with human nature had better quit trying to do business. You have got to realize that fact. The point I want to make, fellow citizens, is this: We have got to stand these burdens and make these sacrifices. I want to draw a contrast for you. You have just passed this draft bill. You have said to the young men of the country between 21 and 30 years of age, "We take you; we take your life; you must die if necessary to protect the property and the liberties of the people who do not go upon the field of battle"—you men who stay here at home, my sons and your sons must go. I have three sons who have already volunteered for the Navy; thank God, they said they were willing to serve their country; and, as I said in St. Paul on Saturday, I would not confess that I had three sons if they did not have the spirit of America in them. We send our sons, my friends, out to fight to protect you and your property. Now, because we are stingy about taxation, or because we quibble about how the money shall be raised, are we going to let our sons go to the front ill equipped, improperly armed, so that they can not sell their lives as

dearly as possible, so that they can not make their lives count for all that their blood and spirit are worth? I don't believe that there is a corporal's guard of men in America who will quibble about taxation, who are unwilling to give more freely of their property than of the blood of their citizens. Shall we be more tender with our dollars than we are with the lives of our sons?

All the sacrifices of treasure that we may make to gain a victory—and we are going to gain that victory no matter what the sacrifice may be—will be infinitesimal compared with the sacrifices that every man of property in this country will have to make if Germany wins this war and plants the iron heel of conqueror upon our shores. You may think that I am speaking extravagantly when I say that, but I am not, my friends. Some wit or philosopher said that the best friends of the United States were the Atlantic and Pacific Oceans. Do you realize that that time has gone by? The Atlantic Ocean today, under the conditions of modern warfare, isn't anything than a 3-mile wide stream. It has been crossed by submarines already. Canadian manufacturers, I am told, have sent submarines to Europe, of which you have never heard. Germany has sent her submarines over here. Only last summer a German submarine came into one of our harbors, and, after going out, sank a lot of merchantmen off the New England coast. Suppose Germany wins this war. She can only win it by overpowering France and England. If she does, and gets possession of the British fleet and the French fleet, combines these with her own strong fleet and with her great fleet of submarines, do you think it likely or unlikely that she can make it very uncomfortable for the people of the United States? She will make it very uncomfortable, and the amount of indemnity that you will have to pay will be thousands of times greater than any amount you will have to raise now by taxation to carry this war to a successful issue. So, my friends, let us not quibble about these questions of property; let us not be more gentle with property than we are with the lives of our citizens; let us strive earnestly, diligently, loyally, and patriotically to equitably diffuse these burdens of taxation, because I am just as much opposed to making any one class fight for my liberty as I am to fighting alone for everybody else's liberty, but let us pay the necessary taxes. Let us all try to secure an equitable distribution of the burdens of taxation, but let us not be overrefined about it, nor oversensitive as be-

tween classes, because—let me take you into my confidence—I have learned this after four years in the Treasury Department—altho I do not make the revenue bills, the Congress makes them—you will never get a perfectly equitable tax measure. So let us not waste time over that. Let us as true patriots put up the price and win the war.

Along with these problems you have another thing to consider in this war: You have got to consider the question of essential price regulation. The Government may have to regulate prices during this emergency. If it does it is purely an emergency measure. The Government in the regulation of prices must see that a remunerative return is given to every producer, and that is what the object of the Government is going to be. It is going to be to protect the producer, and after he has been given a reasonable profit we are going to try to see to it that the consumer does not pay an abnormal difference between the cost of production and the selling price. These measures do not smack of democracy; in themselves they are opposed to the ideal of democracy. But whenever war comes to a democracy it is necessary to shuffle off the clothes of democracy to some extent and to organize and consolidate the power in the President, so that it may be effectively exercised for the benefit of the Nation. That is what we are trying to do. We must at the same time, in the purchases that the Government must make from our industries, from our mines, from our farms, from every other source of production, not attempt to take products at cost. The Government must pay a fair profit to the producer. It is not unreasonable to ask the producer to sell to the Government at a fair profit for the benefit of the people of the country, but it is unfair to ask the producer to sell at cost. So that we have got to see that a nice equipoise between all of these essential economic factors is maintained.

A week ago a patriotic citizen of the United States came into my office, and said, "Give me a pad and pencil." I picked up a piece of paper, a "scrap of paper" that was on my desk, and handed it to him. With a lead pencil he wrote: "I hereby subscribe for \$5,000,000 of the Liberty Loan of 1917, and I agree to pay for it whenever called upon by the Secretary of the Treasury to do so," and signed his name. Gentlemen, that was a thrilling incident to me, because there was the answer of the American people to German's declaration that a sacred obligation is no more than a "scarp of paper." We answer it with

another "scrap of paper." Upon that "scarp of paper" was expressed the spirit and determination of America that the billions of dollars of resources of this Nation would be expended, if necessary, to vindicate the principles of liberty, justice, and humanity thruout the world.

Fellow citizens, you all know that the security of modern civilization rests upon the inviolability of treaty obligations. You know that when Germany tore up the Belgian treaty, a treaty to which she was a party, when she had given her solemn pledge that she would respect the integrity of Belgium, she struck a mortal blow to civilization, she struck a mortal blow to the security and the peace of the world for the future, if she can vindicate that doctrine. Her excuse for it was not the excuse of the German people, but the excuse of the German autocracy, that national necessity justified the breach of a sacred contract, not alone with Belgium, but with her co-powers in that solemn obligation. We can not allow that principle to prevail in this world. We have got to make it clear, my friends, no matter what the cost, that the obligations of nations are more sacred than the obligations of individuals, that the rights of the smallest nations upon the face of the earth are just as sacred and must have the same respect as the rights of the largest nations!

THE INTERNATIONAL FARM CONGRESS

For the first time in the history of the International Farm Congress (the Dry-Farming Congress) the annual sessions of this organization will be held east of the Mississippi river this year.

The International Soil-Products Exposition, which is held annually under the Congress management, will open at Peoria, Illinois, September 18, and continue two weeks. The Congress sessions will occupy four days and evenings of this period.

Heretofore the principal efforts of the Congress have been directed toward the solving of the problems of successful farming in the semi-arid regions, and its work in this respect has been of inestimable value to those sections. Present and future plans contemplate the active continuation of these efforts, notwithstanding the enlarging of the activities of the organization to include general agricultural interests and problems.

The desire of the exhibitors thruout the western states to show their products in the east was largely responsible for the choice of Peoria as

the location for this year's Congress and Exposition.

The number of state exhibits and other large collective displays promises to be very large this year, in spite of war conditions. The following states have already provided for exhibits, by legislative action or otherwise: Kansas, Nebraska, Oklahoma, South Dakota, Wyoming, Arizona, New Mexico and Texas. Similar action is pending in nearly a dozen other states.

Exhibits are being arranged for by the governments of the United States, Canada and Mexico, and also by the provinces of Alberta, Saskatchewan and Manitoba. The state and provincial exhibits will be on a competitive basis, with magnificent silver cups, trophies and cash prizes offered.

actively engaged in the work of the Congress.

Resolutions with the Right Ring

Under date of June 8, 1917, the following resolution was adopted by the Board of Governors and Officials without a dissenting vote:

Whereas, in this world-crisis, the future of America hangs in the balance, and

Whereas, failure to supply men, money and food in the support of the common cause of liberty and humanity might result in the defeat of our allies in Europe, in which event untold disaster would probably be the portion of the United States and Canada, and

Whereas, half a million men have already gone from Canada to battle

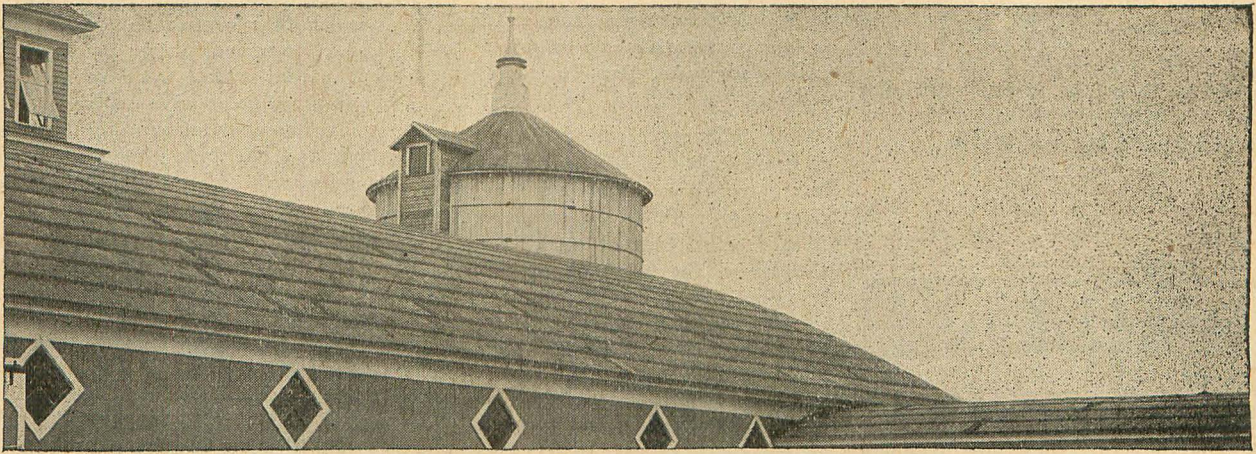
moisture conservation calculated to overcome the effects of light or irregular precipitation and high evaporation; and

Whereas, the investigations, experiments and teachings of this organization, and the various institutions associated with it, and individuals comprising its membership have resulted in appreciable progress, and have made their impress upon the agriculture of the regions referred to; and

Whereas, the wider application of these principles is sure to result in increased production of foodstuffs.

Therefore, be it

Resolved, by the Board of Governors and permanent organization of



The Silo,—A Sign of Thrift and En Evidence of Prosperity.

The total premium offerings will exceed twenty thousand dollars, with competition open to the world. The sweepstakes offered for the best agricultural, horticultural and other products are of special value, and the competition to secure them is keen among thousands of the best farmers, in many states and thruout Canada. There are special classes for products grown in the semi-arid regions, which are not open to irrigated products, or those grown in humid sections.

Thru the cooperation of the United States Congress, which has authorized President Wilson to extend invitations to other nations to send delegates, fifteen or more countries outside the United States are expected to be officially represented at the Farm Congress sessions.

The Congress offices are now open in Peoria, and the work of assembling and preparing for the Exposition and the annual sessions is in active progress. The general offices of the institution, which have been temporarily located at Enid, Oklahoma, are also

against the menace of Prussianism, and it may be necessary for millions more to go from the United States and Canada, and

Whereas, to provide food and clothing for these brave men, and to accumulate a margin of supply which alone can insure successful prosecution of the war, will require the utmost effort of all, individually and collectively, and

Whereas, an appeal has been made to the producers of foodstuffs, by the Governments of the United States and Canada, to make every effort to increase the visible supplies, and

Whereas, this Congress has for the past decade and more been collecting, correlating, and disseminating information relative to the successful production of crops, and the overcoming of the various problems affecting the farmer, especially with reference to those vast regions which, while possessing fertile soil, and potentially capable of enormous production, can be successfully cultivated only under scientific system of soil-tillage and

The International Farm Congress (The Dry-Farming Congress)

First: That the war must be fought to a successful and victorious conclusion, regardless of cost, as a matter of protection and insurance against the world-domination of a military despotism, and resultant restrictions upon the liberties of free peoples.

Second: That we recognize the duties and responsibilities falling upon the producing classes, and unhesitatingly accept our portion of the same.

Third: That we pledge our loyal and continued support to the Governments of the United States and Canada thruout this crisis, no matter how long it may last; and that we evidence this support in the following manner:

(a) By doing all that is within our power to bring the fighting forces to the greatest possible state of efficiency.

(b) By supporting the taxation measures proposed, and all other such measures as may be necessary for the uncompromising and successful prosecution of the war.

(c) By assurances that the thousands of members of this Congress thruout the United States and Canada will produce the greatest possible amount of grain, live stock and other foodstuffs, to the end that the necessary surplus or margin of supply herebefore mentioned may be accumulated, and danger of shortage of supplies for ourselves and our allies removed.

(d) By continuing and enlarging the constructive educational work of this institution to the utmost extent of our ability and resources, as an aid to greater production generally.

Fourth: That copies of these resolutions be respectfully presented to the Governments and the various Departments of the United States and Canada, and released for general publication.

CORN CULTIVATION

Primary Object Is to Prevent Loss of Soil Moisture—Important to Keep Fields Free of Weeds.

Corn should be cultivated only when one or more objects will be

accomplished by the cultivation and when the total effects will be more beneficial than injurious, according to United States Department of Agriculture Farmers' Bulletin 773. Some beneficial effects are (1) preventing weeds from robbing the corn of soil moisture and fertility; (2) putting the surface in condition to take in rainfall, thus preventing run-off and erosion—losses of water and soil fertility; (3) warming the soil by drying its surface quickly; and (4) saving moisture by checking its capillary rise to the soil surface.

Some injurious effects are (1) breaking corn roots, which otherwise would use some of the moisture of light showers before it evaporates; and (2) forming large clods and holes, thus permitting dry air to enter and dry the soil.

In droughty regions corn cultivation is more essential and requires more good judgment than in most other sections.

The primary object of cultivation is to prevent loss of moisture. Moisture losses are caused by run-off, evaporation, and, most of all, weed growth. A most important object of corn cultivation is the keeping out of weeds. It takes but little stirring of the soil to kill weeds immediately after they germinate and before they have used much soil moisture, but to destroy weeds that are well rooted the soil must be worked deeply and thoroly. This requires much labor and can not be accomplished without breaking and destroying many corn roots. In many sections, or in seasons when the seed germinates slowly, it is advisable to harrow once or twice or to cultivate after planting before the corn comes up.

Deep cultivation should never be done close to the plants after they are a foot tall, as much harm would be done by breaking the corn roots.

Aside from destroying weeds, timely cultivation is beneficial in preventing the loss of moisture by evaporation and also in hastening the warming of the soil. The loss of soil moisture by evaporation continues much longer from a compact, damp surface than from a loose, dry surface, and the

evaporation tends to keep the soil cold.

In northern localities and at high altitudes the conservation of heat is frequently as important as the conservation of moisture. Luckily, both heat and moisture may be conserved by good timely cultivation. Heat is wasted in evaporating or wasting soil moisture. Making the surface loose and dry saves both soil heat and oil moisture.

Cultivating after heavy rains is a good practice. To be most effective, the cultivating should be done as soon as the surface is dry enough to work well. If the soil is allowed to dry until it breaks up cloddy, much moisture will be lost, a good mulch can not be obtained, and harm is more likely to be done to the corn roots. As long as rapid evaporation is taking place, the surface will remain cold and the growth of the corn will be slow. In order to cover large areas quickly, cultivators which work two or more rows are a great advantage.

The number of cultivations necessary and the best time for them depend upon weather and soil conditions. Weeds should not be allowed to grow; a mellow surface should be maintained. In some seasons this may be effectually accomplished with one or two cultivations; in other seasons from four to six cultivations may be necessary.

ROOFING

Yes Sir! That's what I sell from my 7 factories direct to you. The BEST roofing made at positively the lowest prices. I am a roofing expert—specializing in Roofing materials and supplies—and I guarantee to save you money. Give you a better roofing and a written guarantee.

65c Per Roll for the best ing. 108 square feet, nails and cement included. No matter what you need in prepared roofing, I can supply you direct at net factory prices.

Send for Big Roofing Book and FREE Samples and be convinced. Now is the time to cover your roof—so send for the book today, sure!

W. E. McCARRON & CO.
12 Dickey Bldg., Chicago
Formerly the Central Roofing & Supply Co.

WARNING
Don't buy a roll of roofing from anybody, anywhere, (including myself) unless you get a written guarantee. Don't take anybody's word about quality, make them prove their claims.

W. E. McCarron

These are 20 Year GUARANTEED ROOFS



Bush Car Delivered Free

Drive and demonstrate the Bush Car. Pay for it out of your commissions on sales. My agents are making money. Shipments are prompt.

Five-Pass..34.7 H.P. 32x3 1/2 tires Bush Cars guaranteed or money back.



114-in Wheelbase
Delco Ignition—Elect. Stg. & Ltg.
BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

BORING AND REAMING OF CYLINDERS

We rebores and ream all sizes of auto and gas engine cylinders fitting same with larger pistons and rings. We weld all Metals. Our machine shop is equipped to handle both large and small work. Send your next job to.

DAKOTA WELDING AND MANUFACTURING COMPANY

203-5th St. N. : : : FARGO, NORTH DAKOTA : : : Telephone 926

POINTS TO CONSIDER IN MAKING "PRIME" HAY

A. M. Teneyck, Director of Agricultural Extension Department
Emerson-Brantingham Implementation Company

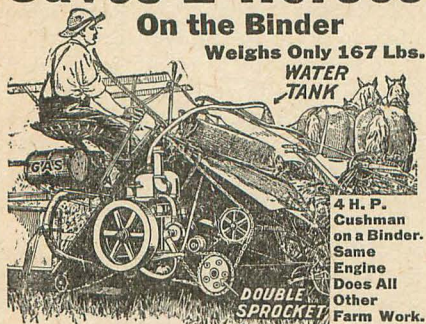
To make hay of the best quality, cut grasses just before the blooming stage, alfalfa just after blooming begins, and clover when the bloom is full and some heads are brown.

Fair weather is the most important factor in making hay of good quality. Hay exposed to rain not only bleaches and loses its palatability, but its food constituents are actually leached out and reduced in amount.

Saves 2 Horses

On the Binder

Weights Only 167 Lbs.



Cushman Binder Engine

For All Farm Work

The 4 H. P. Cushman is the original and successful Binder Engine. Thousands are in use every harvest—saving horseflesh and saving grain.

It saves a team, because engine operates sickle and all machinery of binder, leaving horses nothing to do but pull binder out of gear; also takes away side draft. Therefore, two horses easily handle 8-foot binder in heavy grain.

It saves the grain, because it runs at uniform, steady speed, putting grain on platform evenly, allowing platform and elevator canvas to deliver it to packers straight, and thus it is tied without loss, saving a large per cent of the natural waste of binder.

It saves the crop in a wet season, because slipping of bull wheel or slowing up of team does not stop the sickle, and it never clogs. You can cut wet grain same as dry.

It saves time because you can move right along all the time in heavy grain without killing the horses, and with no choking of sickle, elevators or packers.

It saves the binder, because it operates at same regular speed all the time—no jerking of machinery by quick stopping and starting of team or when bull wheel drops into a rut. That's what tears a binder to pieces. With a Cushman Engine your binder will last twice as long. Write for book with complete description.

CUSHMAN MOTOR WORKS, 881 N. 21st St. Lincoln, Neb.

It is very important to plan the haying operations with reference to government weather forecasts, choosing fair weather when this is possible.

Prefer to mow the hay when it is not wet with dew, or rain, the standing hay will dry off faster than the cut hay.

It is an advantage to use a wide cut mower to insure timely cutting at the least expense of time and labor.

Do not cure the hay too long in the swath but rake it into windrows while the leaves are partly green. If the leaves are not allowed to wither and dry up, they will continue to pump the water out of the stems until the hay is fully and evenly cured.

Prefer to use a side delivery rake, placing the windrows on the clean stubble with all the hay lifted and turned with the stems outside and the leaves inside, in order that they may be protected from the hot sun.

Make hay while the sun shines, but cure it with the leaves in the shade.

Put the hay in the cock soon after raking if the cocking plan is used.

Bunch the cured hay in the evening if the plan is to pitch by hand or use sweep rakes in stacking. This prevents dew bleaching and permits stacking earlier in the morning.

Stack the hay as soon as it is well cured in order to guard against losses by over-curing and weathering.

If hay is very heavy, once over with the side delivery rake set as a tedder will hasten the curing process.

In case of a heavy rain on hay in the windrow, the tedder may be used to assist in rapid drying, after which the hay should be side-raked again into windrows.

If hay becomes wet in the swath or windrow, it should be raked or turned before it becomes too dry in order to save the leaves.

Hay which has been handled properly is ready to stack when by twisting a handful of it in the hands no moisture exudes from the bruised stems.

Do not stack hay when there is moisture on it from rain or dew. This will develop white mold.

Stack on raised and well ventilated stack or mow bottoms, which favor curing and prevent mold.

Because of their rapidity and economy, two preferable methods of handling hay are the side-delivery-rake hay-loader method, when the hay is put in the shed or barn with a hay fork, or hay slings, and the sweep-rake swinging-stacker method, when the hay is usually stored in large stacks in the field.

Shed curing of alfalfa and clover hay is possible in fair weather with sheds properly constructed. A prime quality of hay may be produced in this way, but field curing is safest for general practice.

Hay which is stacked wet and green in large stacks or in deep bays will heat and blacken badly, and may become so hot to burn if sufficient air to produce combustion reaches the heated mass.

It is a good plan to salt new hay in stacking. The salting increases palatability and may prevent excessive heating.

It is more economical as a rule, to bale hay from the stack in cool weather, but field baling with a baler of large capacity is practicable. Only well cured hay should be baled.

A hay shed is a profitable investment on every farm which makes much hay. The saving of hay by shedding will pay the cost of the shed in two or three years.

On live stock farms the hay and live stock should be housed under the same roof for economy of labor in feeding and to prevent waste of hay.

Well cured hay will lose 15 to 20 per cent in weight after stacking. It will lose from 3 to 5 per cent in weight after baling. These losses should be considered in the handling and marketing of hay.

The most profitable way to market hay is thru feeding live stock on the farm, but the hay-selling farmer should study conditions and watch the markets in order to sell his hay when and where there is a demand for it.

The quality or grade of hay largely determines the price, and the quality depends very largely on the proper making of the hay.

We Pay Top Prices Always

For Cream, Eggs and Poultry

We Are Cash Buyers. No Commission Charged.

Our motto: "Correct Weight and Honest Treatment." Prompt return of Check and empties guaranteed. Prices and Tags sent FREE.

A Trial Will Convince You that it pays to ship direct to us. Our outlet unlimited.

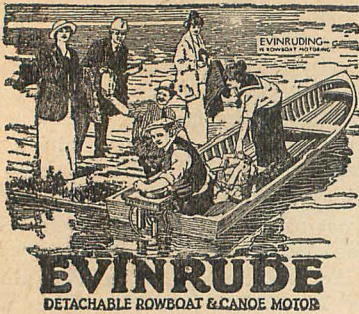
FARMERS CREAMERY & PRODUCE CO.,
Minneapolis, Minnesota.



HOW TO CUT SWEET CLOVER FOR MAY

Unless Care Is Exercised in Regard to the Time, and Height of the Stubble, a Stand May be Killed.

Examination of hundreds of acres of sweet clover in different sections of the United States during 1915 and 1916 showed that the stand on at



Those trips on the water—
—with family or friends—
are doubly enjoyable,
when there's an EVIN-
RUDE in the crowd.
Always ready to take you
where you will and when
you will. Portable— at-
tached to any rowboat or
canoe in a minute. Easy
to operate.

**Evinrude Magneto-Built-
In Flywheel Type. Au-
tomatic Reverse, more
speed and power.**

Sold by

Crocker Brothers

Lisbon, - - North Dakota
Send for Literature

Over 83,000 sold—used by 25 Gov't's.

least 50 per cent of the fields was partly or entirely killed by cutting the first crop of the second season too close to the ground. That is the report of a specialist in forage crop investigations of the U. S. Department of Agriculture, included in Farmers' Bulletin 820, "Sweet Clover: Utilization," recently published. To prevent the loss of stands, the specialist says, farmers should examine the fields carefully before mowing to determine the height at which the plants should be cut. At least one healthy bud or young branch should be left on each stub. In fact, the plants should be cut several inches above the young shoots or buds, as the stubble may die back from 1 to 3 inches if they are cut during damp or rainy weather.

Because of the difference in the growth that sweet clover makes on different types of soil and because of the difference in thickness of stands in different fields, it is impossible, the specialist says, to state definitely the proper height to cut the first crop the second season when a second crop is to be expected. When the field contains a good stand and when the plants have made no more than a 30-inch growth, a 5 to 6-inch stubble usually will be sufficient to insure a second crop. When fields contain very heavy stands—15 to 25 plants to the square foot—it may be necessary to leave an 8-inch stubble. When the plants have been permitted to make a 36 to 40-inch growth, a stubble 10 to 12 inches high should be left. In semi arid regions where the plants do not make as rapid growth as in humid sections, they may, as a rule, be cut somewhat closer to the ground without injury.

The proper time to cut the first crop the second season will vary in different localities, depending upon the rainfall, the temperature, and the fertility of the soil. In no event should the plants be allowed to show flower buds or become woody before mowing. On fertile, well-limed soils in many sections, a very rapid growth is made in the spring, and often the plants will not show flower buds until about 5 feet high. On such soils it is essential that the first crop be cut when the plants are no more than 30 to 32 inches high, if hay is desired which is not stemmy, and if a second growth is to be expected. In cutting the first crop of the second season it is a good plan to use extension shoe soles on the mower so that a high stubble may be left.

It is not necessary to leave more than an ordinary stubble when cutting the sweet clover hay crop in the fall of the year of seeding. A stubble 4 or 5 inches high, however, will serve to hold drifting snow and undoubtedly will be of some help in protecting the plants from winter injury.

In some sections of the country it is difficult to cure sweet clover hay because the stand is ready to cut at a time of the year when weather conditions are likely to be unfavorable for hay making. Succulent plants like sweet clover can not be cured into hay of good quality unless excellent weather conditions prevail during the haying period. One of the most successful methods for handling sweet clover hay is to allow the plants to remain in the swath until they are well wilted or just before the leaves begin to cure. The hay should then be raked into windrows and cocked at once. The cocks should be made as high and as narrow as possible, as this will permit better ventilation. In curing, the cocks will shrink from one-third to one-half their original size. It may take ten days to two weeks to cure sweet clover by this method, but when well cured all the leaves will be intact and the hay will have an excellent color and aroma. When sweet clover is cocked at the proper time, the leaves will cure flat and in such a manner that the cocks will readily shed water during heavy rains.

In stacking sweet clover, a cover should be provided either in the form of a roof, a canvas, or long, green grass. A foundation of rails, posts, or boards, is desirable, as this will permit the circulation of air under the stack. No instances of spontaneous combustion in sweet clover hay have yet been noted, this may be due to the fact that comparatively little sweet clover hay is stored in barns. The

JUST PUBLISHED

How To Run An Automobile

By Victor W. Page, M. S. A. E.

Price \$1.00

178 Pages

72 specially made Engravings



This treatise gives concise instructions for starting and running all makes of gasoline automobiles, how to care for them, and gives distinctive features of control. Shows the control groups of all popular makes of automobiles and describes every step for shifting gears, controlling engine, etc.

It is impossible to get the greatest efficiency out of a car until you know every point in running, caring for and adjusting the machine. In this new book just the problems you are up against are solved in a way that you can easily understand, and so that you can immediately turn to your car and apply the knowledge.

A book every one has been looking for. Fills a real need among motorists, dealers, chauffeurs, repairmen and all who must handle different makes of cars.

ADDRESS: NORTH DAKOTA FARMER, : : LISBON, N. D.

Oil In Sour Lake-Texas Fields Brings Riches to Many

Scenes such as few men are privileged ever to witness are being enacted in the Sour Lake Oil fields of Texas when swirling gushers of oil flow their liquid gold into the hands of land owners.

Small investments in this field frequently return twenty, fifty and even one hundred dollars for every dollar invested. One company last year paid dividends of six millions.

The Sour Lake Texas Oil Company lands lie contiguous to these districts, and these colossal producing fields are considered by oil men the best and most consistent in Texas, if not in the United States.

We own the Sour Lake Texas tract, and offer small investors a remarkable opportunity with protection to join us. \$1, down, \$1, monthly nine months buys lot with interest in co-operative well. May make you \$10,000. Send for FREE maps, particulars and PROOF. Address our Mid-Western Offices. Investigate.

SOUR LAKE TEXAS OIL CO.

Desk K 2720 Ann Ave. St. Louis, Mo.

YOU SAVE from \$7.00 to

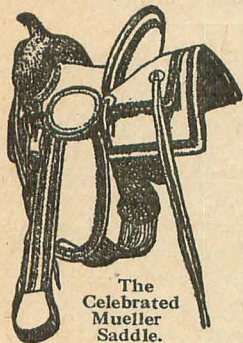
\$15.00

on every Saddle

Send for our Free Catalog from Maker to Consumer

THE FRED MUELLER SADDLE & HARNESS COMPANY

1413 to 1419 Larimer Street DENVER, COLORADO



The Celebrated Mueller Saddle.

READ THIS

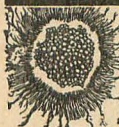
There must be a reason why there is such a demand for Justin's Boots. If you are going to wear boots, why not wear the best? Yours for the Best Cowboy Boots Made. Send us your address on a postal card and we will send you our catalogue, and self-measuring system.

GIVE US A TRIAL

H. J. JUSTIN & SONS
Mfgs. of Justin's Celebrated Cowboy Boots. NOCONA, TEXAS



CANCER



and Tumors successfully treated (removed) without knife or pain. All work guaranteed. Come, or write for free Sanatorium book Dr. WILLIAMS SANATORIUM 3023 University Av., Minneapolis, Minn.



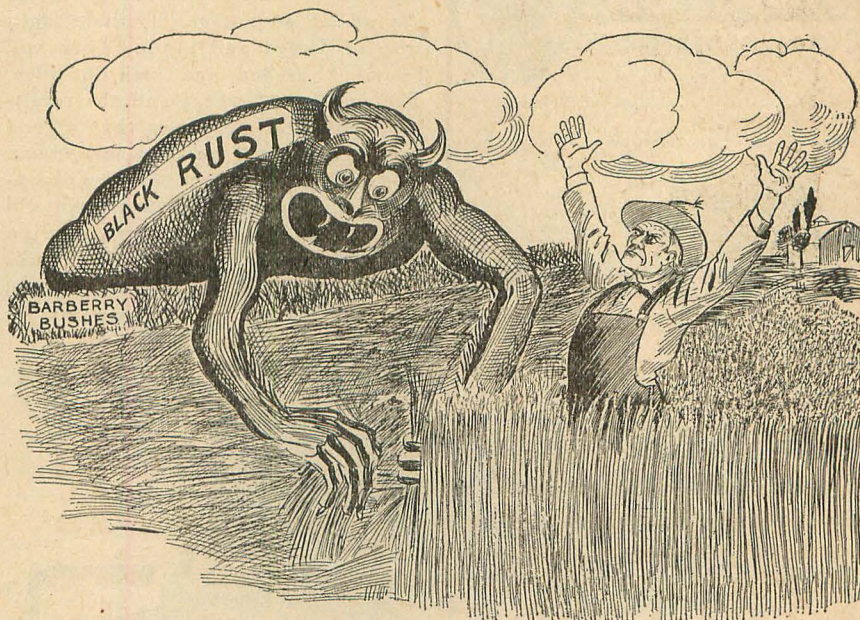
PRICE LIST and book of valuable information Free. Tells best way to care for hides intended for tanning. We own and operate the largest custom tannery in the country, tanning hides into robes, coats and leather, direct for farmers. In business since 1894 and under same management. For quick service and best tanning, Write: CROOKSTON TANNING CO., Dept. 21 : Crookston, Minn.

same precautions in this regard should be taken with sweet clover hay as with red clover or alfalfa.

WAR ON BARBERRY

Barberry eradication, under the direction of the Department of Agriculture and Labor, North Dakota, is being pushed vigorously in every part of the state.

The Department of Agriculture and Labor of North Dakota thru its special agents, Martin S. Hagen of Fargo, Worth G. Couey of Grand Forks, and Mr. Hurtt of Bismarck is endeavoring to locate every barberry bush or hedge within the state, and ordering it destroyed whenever found.



This eradication propaganda is carried on in order to enforce the Barberry law passed by the last legislature (Senate Bill No. 139—Mostad), which provides for the destruction of all the common barberries (*Berberis vulgaris*), in the state of North Dakota, as it has been scientifically proved that they carry the spring stage of the black rust of wheat.

It should be noted in this connection that the Japanese barberry (*Berberis Thunbergii*), is exempt under the law, and consequently it is only the common (green and purple) barberry that must be dug out and destroyed.

When considering how much damage is done to our different crops each year by plant diseases, everybody in general, and the farmers in particular, should be thankful that such a law has finally been placed on the statute books of this state, and should be glad to cooperate in its enforcement. Remembering that rust and other diseases cut down the wheat crop of the state from 155,845,963 bushels in 1915 to approximately 40,000,000 bushels in 1916, and that the world is suffering from a general shortage in bread supplies, one and all of us ought to be interested enough to at least try to find out if we have any of these rust-bearing shrubs on our lawns or in our parks. The Commissioner of Agriculture and Labor, or

his special agents, as well as the County Commissioners of each county, will be glad to answer any inquiry about identification of the bush or any other matter pertaining to this law.

EXPERIMENT STATION NOTES

CORN FOR PIGS TO HUSK

The pigs are good corn huskers and they will pay for doing so too. Experiments have shown that pigs make more pounds of gain from corn when they gather it themselves than when it is husked and fed to them. It takes at least one day for a man and team to husk an acre of corn, so that every acre that the pigs take care of saves that much labor. Squaw corn is very satisfactory for hogging down. It ripens early so the pigs can start on it sooner than any other variety.

An acre of corn that will yield 30 bushels will be sufficient for feeding 6 spring pigs 2 months. Now is the

PELTS

Mc MILLAN
FUR & WOOL CO.
200-212 First Ave. No.
MINNEAPOLIS, MINN.

WOOL

HIDES AND FURS

Shipments Solicited. Quick Cash Returns. Write for Circulars.

time to plan on planting the corn field for the pigs to hog down.

INOCULATION FOR SWEET CLOVER

Sweet clover needs inoculation. In trials better results have been secured when inoculated. A good way to inoculate is to sow 200 pounds of soil from an inoculated sweet clover or alfalfa field on which are growing good sweet clover or alfalfa, per acre. It should be harrowed in good. A cloudy day is best.

KEEP THE HENS WORKING

The broody hens that are not wanted for hatching should be put into an airy coop with slat bottom which is raised from the ground. With the air circulating freely around them and especially under them they will soon get over being broody. Starving them is no good. They should be fed well so that they will be ready to lay as soon as they get over being broody. Now is no time for even a hen to be loafing.

CORN ON SUMMER-FALLOW

Corn in hills leaves the soil in about as good a condition for a crop as does the summer-fallow and the corn has the added advantage of producing a crop of forage and grain. Both will be much needed and high in price. The scarcity of wheat and the resulting high prices will mean that a good deal of corn will be used for human food. Grain for stock will be expensive. With good forage less grain will be required for stock. Plant corn on the summer fallow. Plant it in hills or if in rows not more than a kernel

to each foot of row. Planted too thick the corn will not make so good a growth and the land will not be left in as good a condition, for next year's crop.

GIVE THE PASTURE A CHANCE

The plant uses its leaves for building more plant. Without leaves the plant cannot make normal growth. This is true of pasture crops as well as for other plants. When pastured too close the pasture crops cannot make much growth and hence do not produce much food. It weakens the plant too so that it may not make a normal growth the next year. Give the pasture a chance to produce by not pasturing it too short.

WHERE A TREE FEEDS

A tree sends its roots at least as far as the branches above the ground. It is the newly developed roots that take up the nourishment and these are at the ends of the new roots just as the leaves are on the new branches. This means that water or manure to do the most good must be spread over a surface reaching out at least as far from the tree as the overhang of the branches. Where the rainfall is light grass and weeds should be kept from growing over the roots of the tree, as these will get the moisture first when it rains and there may not be enough to allow any to pass to the tree roots. There are few places so dry that a tree will not make a good growth if it gets all the moisture that falls on the ground occupied with its roots.

HUSTLING THE CORN CROP

Shallow cultivation is one way of hustling the corn crop. The surface soil warms up first and contains the most available plant food so that is where many of the corn roots go. Deep cultivation will cut these roots which results in a set back for the corn plant.

MARKETING POULTRY

Each grade of carcasses will sell better if kept separate from the rest.

Before packing make a careful inspection of each bird, washing the feet, removing clotted blood from the mouth, and also washing the head. All the breaks in the skin should be sewed up, using fine white thread for this purpose. A curved needle is more convenient for this work than a straight one.

In shipping live poultry to market,

Save on a TRACTOR!

Guaranteed by Galloway!


Has everything you want and demand on a tractor and saves you money, because you buy direct from the manufacturer.

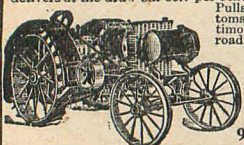
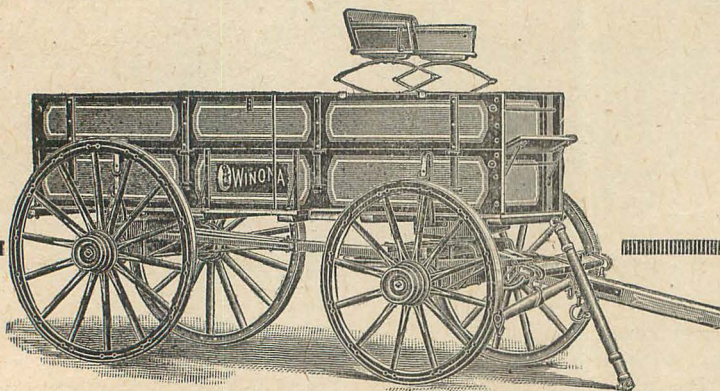
12 full H. P. on draw bar, 20 H. P. on belt, four-cylinder, water-cooled, long-stroke, modern motor. By actual test requires only 13.3 per cent of motor's power to propel itself, delivers at the draw bar 86.7 per cent of the motor's efficiency.

Pulls easily three 14-in. bottoms 8 to 9 in. deep in clover or timothy sod. Unexcelled for road building. Will do any portable engine job.

FREE Book Write tonight for the book that tells all and explains my money-saving system.

William Galloway, Pres.,
WM. GALLOWAY CO.
985 Galloway Sta., Waterloo, Ia.



Strongest and Lightest Running

THE Winona is the strongest, lightest-draft farm wagon you can buy. Axles won't break—rims won't split—hubs won't check—boxes will stand the siege of steady use. If you want a fine-looking wagon that will give you uncommon length of service, see the Winona.

WINONA FARM WAGON

BUILT from tough, solid, "bone dry," seasoned timber—ironed with extraordinary care. Outer Bearing Axles, full Clipped Gear, Riveted Bent Fellos. Strongest Skeins, Poles and Hounds. Boxes extra cleated and braced. Comfortable Seats. Durably painted with best quality paints.

Write for Catalog F showing many exclusive features of the Winona.

WINONA WAGON COMPANY, Winona, Minn.

ENCOURAGE AND MAKE USE OF THE SPIRIT OF PLAY

Playground Games, 10 cts. Rules for playing the more common games of the school ground.
Game of Times, 15 cts. A help in teaching and learning the tables and simple factoring.
Davies Number Cards, 25 cts. All possible combinations. For all grades. In boxes.
Westland Phonetic Cards, 25 cts. Busy work for primary grades. An aid to sight reading.
Fundamental Operations of Arithmetic, 15 cts. Invaluable for rapid work in numbers.
Uncle Will's Magazine, The Rotary. 50 cts. Unique. Has personal element. 20th year.
North Dakota Speller. 40th M. For 5th-6th, and 7th-8th Grades, 15 cts each. Trial, both 25 cts.
Westland Educator, Box F. - - - Lisbon, North Dakota

never place roosters and hens in the same shipment or crate. Such shipments are valued at the rooster rate which is considerable less than that for hens.

CARE OF CARPETS AND RUGS

A solution made of soap, water, and salts of tartar, which may be secured at any drug store, makes an excellent cleaning agent for soiled carpets or rugs. Shave one-half pound of soap in one quart of water and boil until dissolved. Then add to this mixture one gallon of hot water and one ounce of salts of tartar, and mix thoroly. Apply the mixture to the carpet or rug with a stiff brush, scrubbing briskly one breadth at a time. When the carpet is scrubbed sufficiently with the solution, wipe it with a cloth wrung out of cold water. If there is much green in the carpet, add one cup of vinegar to the solution and it will preserve the color. This quantity will clean a large carpet.

Rugs and carpets may be freshened by wiping them with a cloth wrung out of warm water, ammonia, and kerosene. Use one teaspoonful of ammonia and one tablespoon of kerosene to one gallon of warm water. Also the colors in rugs and carpets may be brightened by using a solution of alum water. Apply the solution to the carpet or rug with a cloth, and wipe thoroly. If the colors are faded they may be improved by touching up all faded designs with commercial dye, or a mixture of oil paint and gasoline. Use a small brush when applying the color.

THE STOCKMAN SAYS

By weighing and testing the milk of each cow a sufficient number of times the owner can keep himself informed.

Feeding of stock cannot be carried on economically where animals do not eat up clean all that is put before them of the right kind of food.

As long as milk is warmer than the surrounding atmosphere it is continually giving off vapor and will not take in odors but injurious bacteria may find their way into it.

It is not the breed alone nor even the breed and feed that make the farm successful. The man himself has considerable to do with it. A poor stock farmer can not make a success of stock farming no matter what he has to work with.

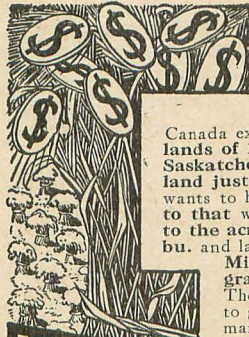
Under present conditions there are three distinct types of horses that are profitable to breed; the heavy draft horse, the American trotter, and the modern coach horse.

It has been said that the hog is a

machine that oils itself, puts ten bushel of grain in less space than a bushel measure and in so doing doubles its value, and then carries it to market on his back.

The use of immature sires is a sure way by which to degenerate stock. It will induce lack of constitutional vigor, decrease size and tend to transform good animals into scrubs.

A business must stand or fall on the merits of its chief product; the by-products may pay more or less, but the business is not conducted for the sake of the by-products; dairying is no exception to this rule. At the same time in any business the by-products must be closely looked after and utilized if the best profit is realized.



Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in Manitoba, Saskatchewan, and Alberta. This year wheat is higher but Canadian land just as cheap, so the opportunity is more attractive than ever. Canada wants to help feed the world by tilling some of her fertile soil—land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think of the money you can make with wheat at over \$2 per bu. and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed farming in Western Canada is as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or to

W. E. BLACK

Clifford Block, Grand Forks, N. D.

DURUM WHEAT WANTED

We are in the market for a few cars of choice

DURUM WHEAT also MILLET SEED

in either car lots or small shipments. Mail samples for our bid.

FARGO SEED HOUSE

Fargo,

North Dakota

Reboring and Grinding of Cylinders

This is the time to fit up your steam engines and gas tractors for the coming season

We can rebore and grind your cylinders, fit new oversize pistons and rings, make and fit new crank pins, straighten shafts, bore and bush gears and clutches or do any kind of machine work. Refue boilers and replace stay bolts. We carry in stock all sizes of stay bolts, patch bolts, bracket bolts, rivets, boiler flues, stay-bolt taps and boiler taps, shafting, shaft hangers, cast iron pulleys, woodsplit pulleys. Write and let us quote prices on any work you have.

Craig Brothers, Fargo, N. D.

P. O. Box 295. - - - - - Telephone 554 W.

North Dakota Farmer

Entered as second class matter at the postoffice at
Lisbon, North Dakota

PUBLISHED EVERY MONTH

W. G. CROCKER : : PUBLISHER
Lisbon, N. D.

MANAGING EDITOR : W. G. CROCKER
ASSOCIATE EDITORS:
E. F. LADD J. H. SHEPPERD
O. O. CHURCHILL C. B. WALDRON
H. O. WERNER

Remittance may be made by draft, check,
money order, or stamps if it will accommodate.

Vol. 18 JUNE, 1917, No. 12

The fifty-cent dollar is with us.

One swat for the fly and two for
the food gambler.

Rotate the garden crop. Replant
when the early crop has been har-
vested.

Beware of the water hemlock! It
is often fatal to both man and beast.

We have't a particle of sympathy
for the farmer who held on to 400
bushels of potatoes for the \$4 a bush-
el mark.

We have given considerable space to
a portion of Secretary McAdoo's
speech at Des Moines. We trust every-
one will read it thru carefully.

Don't fail to have a second litter of
pigs from that sow. Present condi-
tions demand it, tho ordinarily it is
not the best plan.

The man who would protect his
poultry most securely against the
weasel or the hen hawk will expose
his crop to the attack of weeds, equal-
ly as destructive. Strangel

This is the month for putting down
eggs. Altho the price at present is
rather high, every indication points to
the highest price ever paid for eggs
the coming winter.

Notwithstanding the cold water
thrown upon the Liberty Loan by
certain misguided and misleading ones
that loan was oversubscribed by over 50
per cent.

Have you noticed now the hog
these days sticks up its nose to the
ordinary animal? The hog has not
only become a mortgage lifter, but the
aristocrat of the farmyard.

In our efforts to increase the food
supply care should be taken that fires
do not destroy the grain and hay.
Carelessness amounts almost to a
crime under existing conditions.

The boys and girls of North Dako-
ta are already well mobilized for ser-
vice on the farm. Our hope is that
they will, by their success, make their
parents ashamed of themselves.

It is not too late to sow alfalfa.
Put in a small plot at least. Alfalfa
will surely win its way to your favor
if given a chance. Inoculate the field
if you would insure a good stand.

Beware the demagogue who professes
patriotism and at the same time ad-
vocates measures antagonistic to the
Government's decrees. Sedition often
lurks behind the right of free speech.

Mexico has certainly "slipped one
over" the United States by granting
suffrage to the women. The wife of a
U. S. supreme court justice may en-
vy the rights of the peon's wife in
Mexico.

Some farmers will be foolish enough
to sell low on dairy cows. Valuable
as her body may be for beef she is
worth from 15 to 20 times that
amount for her milk, butter and
cheese products.

The war certainly is teaching us
thrift. Let nothing spoil. Preserve
all surplus vegetables and fruit. Save
the food by keeping it covered and
clean. Remember that warmth and
filth cause bacteria and germs to mul-
tiply.

In our struggle for increased pro-
duction let us not cease our fight
against the dangerous fly. Both bo-
rax and hellebore are effective in pre-
venting flies from breeding in manure,
altho borax may slightly lessen the
value of manure.

Were the war to cease tomorrow,
prices of foodstuffs would continue to
remain high. Naturally, we must ex-
pect the price of grain to drop as soon
as the crop is placed upon the mar-
ket, but the price of wheat is not
likely to go below \$1.50.

The Northern Pacific has again de-
cided to give away the old ties for
fuel to the farmers along the right of
way. This was the former policy of
the road until some of those thus
accommodated "appropriated" the new
as well as the old.

The campaign against the barberry
bush is meeting with the co-operation
of our citizens. Many townspeople
who have been petting a hedge of
these bushes for a number of years
have sacrificed them in the interests of
the farmers of the state.

The farmers of North Dakota
should interest themselves in bee cul-
ture. Not only is the product of the
bee fully as digestible as sugar, but
the little workers help in the distribu-
tion of pollen from blossom to blos-
som among the fruit trees and shrubs.

Prof. N. L. Bolley, is anxious to
learn of the outbreak of any plant
diseases upon the farm crops. He will
supply you with tag which will allow
you to send postage free to the
amount of 4 pounds plants that show
diseases and you may also add ques-
tions by letter.

One reason why North Dakota did
not respond more liberally toward the
Liberty Loan was because \$100,000,-
000 is owed by the farmers on their
farms at 8.7 per cent. However,
when crop statistics are gathered in
the fall, this state will have been
found in active service.

There is no truer patriot than the
American farmer. He has been a
pioneer in the rearing of this mighty
nation. He only asks a square deal
in the matter of price fixing, urging
that the advance in cultivators,
wagons, binding twine, fuel and gro-
ceries be taken into account. He is
onto the tricks of the mountebanks
who advocate a big price for the wheat
and a little price for the flour.

You cannot afford to disregard the
symptoms of hog cholera, especially
when the price of pork is in the
neighborhood of \$15. Some of the
symptoms are loss of appetite, high
temperature and disinclination to
move about. Sometimes there is a
cough, and at times red spots appear
on the skin near the armpits, behind
the ears and on the inner sides of the
thighs. Keep on the watch for these
symptoms during the late summer nad
early fall.

YOU MISSED IT

By not accepting our special com-
bination offers on this page. All
former offers are now withdrawn.

Here is one more chance:
North Dakota Farmer \$.75
Rotary, Uncle Will's Magazine .50
\$1.25

Price of Both ONLY \$.75

North Dakota Farmer, Lisbon, N. D.

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Cheap salt in butter making is an expensive economy.

A good pedigree is a good thing in a good animal.

The best farmer accomplishes most with the least labor.

Size, form, bone and constitution are the important breeding points.

Nothing but weeds will grow without care or cultivation.

The manurial value of foods corresponds with their nutritive value.

Feed regularly, milk regularly; never change milker, unless obliged to.

A cow that will not eat abundantly will not produce abundantly.

Good butter depends more on the butter maker than on the cow.

Economy of product and value of product is the standard of merit.

Economical feeding depends upon the food assimilated rather than the food eaten.

When a variety is supplied more food is consumed and the better the digestion.

With all stock there should be a due proportion of concentrated and bulky food.

There is more profit in growing an animal than in fattening one already grown.

All animals must relish their food if they are to get the most out of it.

Much of the value of manure is lost by having it outside the soil.

It is not the hardest labor but the best directed labor that accomplishes the best results.

The plant food in the soil needs to be balanced as well as the ration for stock.

Overfeeding is a waste for indigestion is the result and food that is undigested and unassimilated is wasted.

Variety of food necessarily lessens waste for then the animal gets all the elements essential to animal growth.

The owner pays taxes on all his land and is out of pocket for whatever is not earning him something.

Without stock there can be no complete utilization of the farm products.

With plenty of stock there should be no waste products.

The farther from market the greater the need of condensing the products by feeding grain and roughage to good stock.

Complete manures are those which contain nitrogen, phosphoric acid and potash. For different crops these ingredients should exist in different proportions.

The profit in farming depends upon three factors: the value of the product, the cost of production and the time consumed in producing.

Profitable farming depends as much upon selling as upon producing. Grow the best crop possible and then take it to the best market available.

After maturity an animal gains in fat only and so makes less gain in proportion to the food consumed and consequently with less profit to the feeder.

The market value of food products fed to any animal that is to be used for meat begins to decrease as soon as the animal arrives at maturity.

The dairy cow performs three important functions; she yields a constant income, thus marketing more economically; she produces a valuable offspring and she improves the quality of the farm.

The nearer you can get to full blood in breeding the more certain you are of securing good results. It is in this is found the advantage of breeding high grade dams to full blooded sires.

It takes just so much fertility: nitrogen, phosphoric acid and potash, etc., to grow a bushel of grain as a ton of hay; when sold it leaves the farm where it should remain, and the soil is that much poorer.

When with care and feed a cow has been brought up to her full capacity nothing more can be done with her, but she can be bred so that her calf with the care and feed the dam had will excel her as a mother.

Nearly all cultivated crops have their by-products which are of value if we are properly equipped for using them. A good assortment of livestock supplies this equipment. The farmer who is not thus provided sees some share of his product going to waste every year.

It costs a certain amount to produce every animal and every product raised on the farm. If it is sold for only the producing price the sale is a very poor one. Every dollar above that secured means profit; and the better the salesman, the greater the net proceeds from the farm at the end of the year.

Sheep should never be kept beyond



Purebred Registered
**HOLSTEIN
CATTLE**

\$53,200 PAID FOR HOLSTEIN BULL CALF

The greatest tribute to the superiority of Holstein-Friesian Cattle was paid in the auction sale at Worcester, Mass., June 7 and 8, where a Holstein Bull Calf brought \$53,200, a Holstein Cow \$18,300, and a Holstein Heifer \$18,000. 143 animals were sold for \$296,470, or an average of about \$2,073 per head. In 1916 at Detroit, Mich., 140 animals were sold for an average of \$1,173 per head. This great increase in selling values is proof conclusive of Holstein popularity, partly due to Holsteins raising in the past year all world's 7-day records for milk and butter. The world's record for butter in 7 days is now over 50 lbs.

Send for FREE Illustrated Descriptive Booklets
Holstein-Friesian Association of America
F.L. Houghton, Sec'y Box 267, Brattleboro, Vt.

ENVILLA STOCK FARM

Cogswell, N. D.

Will quote you special prices at any time on Angus Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens, turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : : LISBON, N. DAK.

Pleasant Ridge Stock Farm

has some first class D. S. Polled Durham Bulls for sale. Price reasonable.

H. A. STRUTZ, Prop.

Thompson, : : : : North Dakota

JEAN DU LUTH FARM

A. R. Guernseys and Red Polls!

Our Motto:

"Correct Type Together With High Production"

Our Herds number 270 pure breeds

Write for pedigrees of our \$200.00 bulls

Jean Du Luth Farm

Geo. P. Grout, Managing Owner
Duluth : : : : Minnesota

Holstein Calves

10 heifers, and 2 bulls, 15-16ths pure, 5 weeks old, nicely marked and from heavy milkers \$20.00 each, crated for shipment anywhere. Edgewood Farms, Whitewater, Wis.

PERCHERONS

If you want a real good young stallion or mare you should come to my barn. You can buy at a lower price at the barn than anywhere else. All home raised and used to Dakota conditions. A square deal guaranteed.

Wm. Steinbach, : : New Rockford, N. D.

Now is the TIME and this is the PLACE to buy

Shetland Ponies

FOR THE CHILDREN

Write your wants to

DR. J. A. H. WINSLOE, COOPERSTOWN, N. D.

If you have livestock to sell, you can reach a buyer thru the ad columns of the N. D. F.

the age of thrift and vigor. Feed and care will bring better returns when bestowed on younger stock. Young and vigorous animals put on more flesh for the same quantity of food than older ones. When the sheep are sheared is a good time to mark the sheep that have passed their prime. All such should be fattened while there is good pasturage, and marketed.

HOG RAISING FROM THE PACKERS' VIEWPOINT

A treatise on hog raising from the viewpoint of the packer, has been compiled and is being sent out to the swine raisers of the country by Armour and Company. The booklet is the work of E. R. Gentry, general hog buyer for Armour and Company, assisted by Dr. R. J. H. DeLoach, director of Armour's Bureau of Agricultural Research and Education. It is not intended to supplant the excellent treatises on swine breeding put

out by the government and by other learned authorities; on the contrary it is designed to make those works more valuable to the man who desires to raise hogs for the market.

It describes the various classes and grades which are standard at the various big markets and explains the types which the packers are most anxious to get and for which they will pay the highest prices. The various cuts and the dressing percentages from the different grades are described and their bearing on the market values shown. The booklet is in no sense aimed to induce the farmers to turn toward certain breeds of swine, the intent being merely to acquaint the hog raisers with the needs of the pork packer.

The losses borne by farmers as the result of disease among the droves is dwelt upon and advice is given on how to minimize this loss. A chapter is devoted to the matter of government inspection and another to the interesting by-products phase of the industry.

whose faithful adherence to the breed, back in the days when there was a tremendous prejudice against the Black-and-Whites, has borne fruit and given proof to the world that no other breed of dairy cattle can compare with it for value as milk and butter producers.

Founded in 1875 by the purchase of the bull, Baron Steuben, and the two females, Juno and May, which were secured the following year, the first real success came after Mr. Stevens purchased the imported cow, Inka, then a yearling heifer. Baron Steuben was replaced by Mooie Hartog 4th and then followed Milla's Pietertje Netherland. One has only to think of a great Holstein sire or cow and on tracing back he will invariably find the ancestry of the animal in the Brookside herd. Such splendid specimens of the breed as De Kol 2d, Belle Korndyke, Netherland Hengerveld, Helena Burke, Korndyke Queen, and Korndyke Queen De Kol, are but a few of the animals whose work as foundation stock is familiar to every student of Holstein history.

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

WANTED—To hear from owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

FOXES WANTED: 100 young reds, also old ones.—High class July and Walker Fox Hounds for sale. Guaranteed to please or money refunded less express charges. **Ross Brown, McFall, Ala.**

MISSOURI AUCTION SCHOOL

FREE CATALOG KANSAS CITY, MO.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. **Envilla Stock Farm, Cogswell, N. D.**

WANTED: Man to wear fine suit, act as agent. Big pay, easy work. **Banner Tailoring Co., Dept. 501, Chicago.**

BUYERS, see these bargains before you buy. Farms, businesses, any kind, anywhere. Send for free Magazine. **Western Sales Agency Minneapolis, Minn.**

WANTED to hear from owner of good farm for sale. State cash price and description. **D. F. BUSH, Minneapolis, Minn.**

Oregon & California Railroad Co. grants lands. Title to same revested in United States by Act of Congress Dated 9, 1916. Two million three hundred thousand acres to be opened for homesteads and sale. Timber and agricultural lands. Containing some of the best land left in United States. Now is the opportune time. Large sectional map showing lands and description of soil. Climate, rainfall, elevations, etc., postpaid, one dollar. **Grand Lands Locating Co., Bx 610, Portland, Oregon.**

Free For Six Months. My special offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how \$100 grows to \$2,200; write now and I'll send it six months free. **H. L. Barber, 588.20 West Jackson Boulevard, Chicago.**

DISPERAL OF THE GREAT BROOKSIDE HERD

The greatest dispersion sale of pure-bred dairy cattle in the history of the world took place at Liverpool, N. Y. on May 15, 16 and 17, when the great Brookside herd, founded in 1875 by the late Henry Stevens, of Lacona, N. Y., and later owned and brought to a high state of perfection by his two sons, Ward W. and Ralph J. Stevens, was placed under the hammer and sold for the magnificent sum of \$242,665. There were 309 head and the average price worked out at \$785, the two highest priced animals being the famous sire, King of the Pontiacs, who sold for \$10,500, and the finely bred King Model, who was knocked down at \$10,000. N. W. Salmon of Glenfield, N. Y., purchased the former and H. Perkins & Son and M. Phillip, of Red Creek, N. Y., the latter.

Naturally the event drew Holstein breeders and dairy cattle fanciers from all parts of the country, nearly every state in the union being represented. The wide publicity and persistent advertising of the sale, as well as the high reputation of the herd, drew a magnificent crowd of buyers, men who today are reckoned among the elite of the Holstein industry, and who are giving freely of their time, money and brains toward the developing of this great breed of dairy cattle. The sale was a veritable triumph for the owners of the herd and formed a fitting climax to the courageous and optimistic foresight of the late Henry Stevens,

WHAT LIVESTOCK PREPAREDNESS MEANS

By T. E. Leiper, Col. A. C.

Not a hit and miss organization, but a well planned livestock farm.

Not more animals poorly cared for, but all the animals we can adequately feed and house.

Not all our fields in wheat or potatoes, but a large portion of the poorer fields in silage corn, or other fodders.

Not yielding to the tempting high prices of the present market, but the holding of our female stock for production next fall or spring.

Not a large growth or green feed in pastures and along our ditch banks covered by snow next winter, but the maintenance of a few sheep on every farm to use this otherwise wasted feed.

Not the abuse of our horses in the rush of the busy season, but time taken to care for their feet, shoulders, and teeth.

Not the sacrifice of business relations for immediate profits, but the cultivating of a strong mutual trust with our bankers and neighbors.

Not gambling on hay alone for wintering over our stock next season, but preparing against the long, cold season by building silos now and filling them next fall.

Not taking advantage of loyal labor, but showing our appreciation to those who work with us, by kind consideration and just rewards.

Not necessarily the adoption of new methods, but the strict operation of tried and proven methods of herd management.

Not indifferent co-operation with our county agents and livestock associations, but an active part in every move for better methods and community welfare.

TO TELL THE AGE

Horses

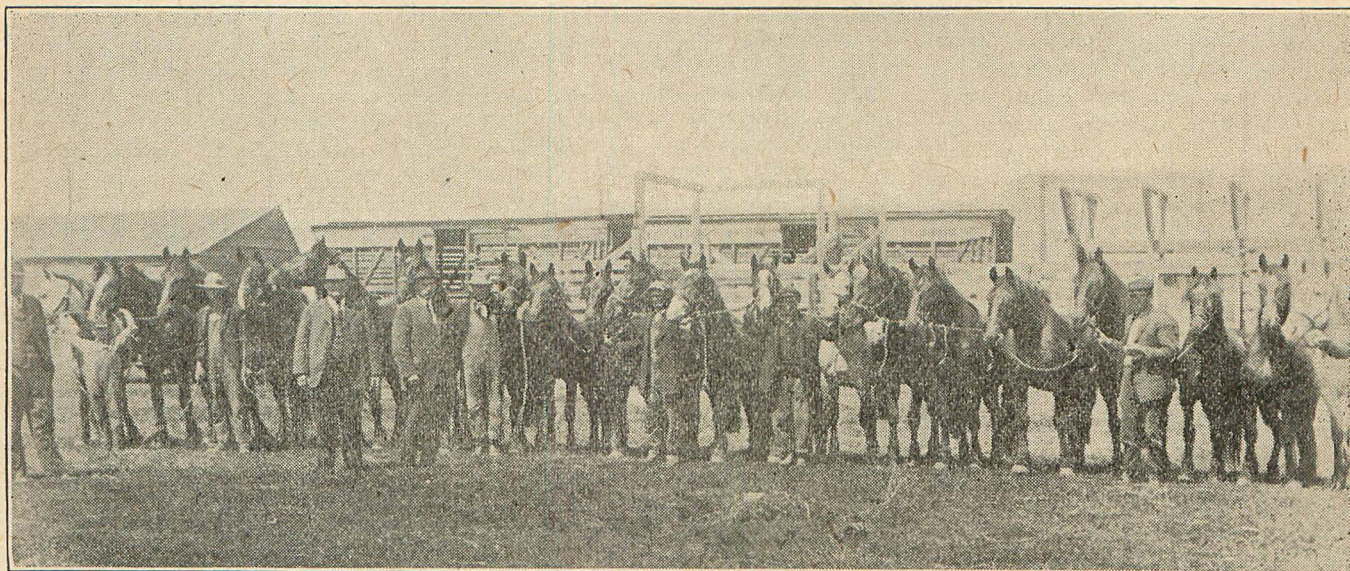
The age of a horse is determined by his teeth; by the time that they appear and by the disappearance of the cups or tables.

At five years what are known as the tusks are full size. At six the cups have practically disappeared from the center pair of lower incisors. At seven the "swallow-tail" or nick has appeared in the corner incisors and the cups have disappeared from the intermediate lower incisors. At eight years the cups have practically disappeared from the corner incisors. At nine, ten, and eleven the cups disappear from the center, intermediate and corner upper incisors respectively. From eleven on the teeth become more triangular and join the jaw at a greater angle.

At nine years of age the two middle fore teeth are smaller and narrower than the rest, at ten years of age the next two are so, and so on until the animal is twelve years of age, when the teeth again begin to stand apart from each other.

A VALUABLE AID TO THE BEE KEEPER

Productive Bee Keeping and Modern Methods of Production and Marketing of Honey, By Frank G. Pellett State Apiarist of Iowa; published by J. B. Lippincott Co., Philadelphia, Pa. Price \$1.75. 302 pages, 134



A fine bunch of horses about to be shipped from Hague, Emmons County, by Otto Schaap. They have just been inspected by Dr. T. G. Kenny, of Bismarck. Their destination is Zeeland, Michigan.

The center pair of the milk teeth are found in the colt's mouth at birth or a few days after. The intermediate pair appear when the colt is six to nine weeks old and the corner pair at seven to nine months. The larger permanent teeth appear at about two and a half years and are in full wear at three years. The next pair when up indicate four years and the corner ones appear at about four and a half, being in full wear at five.

Cattle

Age of cattle is best determined by the teeth. The calf is usually born with two fore or cutting teeth, and in one month the entire eight are out. The age is then guessed by the wearing down of these teeth until the calf is eight months old, when they begin to grow narrower and smaller. At eight months old the two center teeth have become smaller than the rest, and from that time until eighteen months of age the other teeth gradually diminish, until they are all considerably lessened in size and stand apart from each other.

At two years old the two middle teeth are pushed out and succeeded by two permanent ones, at three years of age there are four permanent teeth, six at four years, and all the rest at five years of age, when the animal is said to be "full-mouthed."

From six to nine years one will be guided by the wearing down of the teeth, and after that by the diminution of their bulk.

illustrations. A plain practical book written by a man who has kept bees an ordinary lifetime. Honey is the purest and best of sweets and nearly every farmer can have all that time and his family can use with very little trouble. They are the only class of stock that board themselves and give a good return. By following the advice given in this book the best success may be attained. This is one of Lippincott's Farm Manuals and like the others is full of good practical advice. Adv.

LIVESTOCK POINTERS

Keep a bottle of carbolated vaseline handy for chapped teats.

Poor and unpalatable feed is the cause of poor milk yields.

A poor milker may cause as much loss to the owner of a dairy as a poor cow.

All cows should be treated with uniform kindness, and fed and milked



GET RID OF Worms and Bots

You can remove every one of them. We guarantee to kill and bring from the body, dead, in a very short time, all pin worms and bots, with the safe and sure remedy.

NEWVERMIFUGE

Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Newvermifuge has removed from 500 to 300 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today. Price \$2.00 for 12 Capsules. **BALLING GUN FREE** with 4 dozen \$8.00, with 2 dozen \$5.00. Postage paid.

Farmer's Horse Remedy Company,
Dept. B2, 592 7th Street. Milwaukee, Wis.

at regular times by the same person, if possible.

It is a fairly safe rule to select a sow from a large litter that has turned out well, especially if the boar came from a similar family.

The cow inherits the habit of producing well at the pail or she inherits the habit of producing fat on her ribs and back. The former is what we are after in the dairy cow.

The farm herd of broodsows should be kept up by adding a young animal as an old one fails, and not by discarding all old ones at once and beginning again with young ones.

Select a cow whose flank is arched high at the side of the udder. Stand behind the cow and see that there is no flesh between her hind legs almost up to the roots of the tail.

Unless you feed the surplus necessary to produce extra growth you get no returns whatever from the food given; in fact, the animal is not in a good condition to take on grain successfully as he would had he been well fed from the beginning.

Two or three days after farrowing the sows' ration should be increased until they are given all that they will eat up clean. Brood sows should be heavily fed for the gains of young pigs are made at low cost for feed consumed.

It is reasonably certain that a sow is a good milker if she raises a goodly number of pigs and does it well. Her milking qualities may not be transmitted to her offspring but the chances are very much in her favor.

Pigs should be kept growing constantly and the best results will come with feeding a little under their capacity rather than all that they can consume. To counteract the tendency to become too fat they should have plenty of exercise.

The short life of the hog and the strain put upon the system to bring it to an early market demands that every effort should be made on the part of the breeder to secure health and vitality and the first step to secure these is to have healthy, vigorous parents. No more can good stock be had from poor parents than strong plants from poor seed.

Points on selecting a good dairy cow: The individual must be healthy, with clear, bright eyes, set well apart. The head is usually small, the mouth large, the neck long and muscular; the brisket is not so wide as in the beef cow. The hips are rather prominent, the thighs somewhat muscular, the legs set square with the toes pointing forward. The dairy cow must be quiet and gentle, the skin soft and velvety.



Poultry Department



MARKETING POULTRY AND EGGS

Michael K. Boyer

In marketing, if not done in a neat and attractive manner, there can be no hope for the cream of prices. That word "fancy," so often seen in the market reports, means attractiveness of appearance as much as it means quality of goods. Market people are led by impressions, and if the good look tempting, the sale is made.

Stick to a good, reliable commission merchant, and do not be led by tempting offers made by new concerns. Many of these offers are not bone fide, and while the first few shipments may be promptly met, eventually there is a failure and loss.

A shipment should never be made before writing the commission house, unless one has a contract or understanding to ship regularly each week. In the latter case the merchant will be on the lookout, and will have a market for the goods before they arrive.

Generally, Monday is a poor day to ship, as buyers are not so plentiful. Shipments can be safely made between January 1st and November 1st, but there is a risk of meeting an overstocked market during the last two months of the year. During those two months shipments should not be made except on special order. The holiday trade does not seem to be equal to the tons of poultry that come in from all quarters.

Guarantee freshness in every shipment, and tag every carcass. That is the best way to advertise, and if the goods are of prime order there will be a demand for in the market.

A fowl that shows the slightest suspicion of a cold, or that is not in prime condition, should not be marketed. It should be a rule never to send away anything that one would hesitate to place on his own table.

Quality rather than weight, fixes the price of dressed poultry. One bad, poor or indifferent chicken in a lot often condemns the entire shipment.

Boxes or barrels can be used for shipping dead poultry, but boxes are preferred. But they must be perfectly clean, and should be lined with clean paper, but never wrap the carcass in straw, cloth or paper. Place them breasts down, on layers of ice (if during warm weather), and care-

fully tuck the head of each bird under its wing. Packages of not more than 100 pounds in weight, travel best.

Place a memorandum of the goods in each shipment, showing weight, to the pair. Neither old cock birds, nor cockerels with spurs, come under this heading, they having a special classification of their own.

Guarantee freshness, in shipping eggs, and market at least twice a week. Never send out a dirty egg. With a moist rag lightly wipe off all dirt. Assort to color and size, and if serving a retail trade it will pay to have carton boxes, holding a dozen eggs each, and on this box have a guarantee printed. In this particular a New York poultry farm some years ago had an attractive card printed on their egg packages with the following words:

"Strictly fresh eggs carry with them their own recommendation, and need no argument to prove their superiority. Believing that the food a fowl eats affects the quality as well as the quantity of eggs produced, we feed clean, sound food, and of a considerable variety, and we claim for our eggs a finer, richer flavor on that account. We maintain cleanliness, order and regularity in the management of our fowls, all of which we think tend to a first-class product. We ship clean, fresh-laid, fresh gathered eggs from our own customers."

Such a guarantee inspires confidence, and if carefully followed will establish a retail trade that should command at least five cents a dozen more for the goods.

In gathering eggs, the poultryman should at once remove them to a dry sweet cellar where the temperature remains pretty even. There should be no foul odors near the eggs, as they quickly absorb all impurities. It is remarkable how quickly an egg can be tainted thru the shell.

Pure fresh eggs put away in cold storage, or preserved in any other way, are bound to be stale eggs when marketed. Age stales them. When an egg is over a week old it is no longer fresh. The man who markets strictly fresh eggs has to compete with this inferior stuff, but if he establishes a reputation for honest goods, no inferior article can hurt his trade. We do not oppose "cold storage eggs" or "preserved or pickled eggs," if they are plainly advertised as such, but to label them "Fresh" is where the trickery comes in.

Breeding for High Records

In order to have a hen average 200 eggs, in a flock, it will be necessary to have a number of individual layers that will reach 250 eggs or more for each hen would not lay 200 eggs and then stop, and a great many would be somewhat short of that amount. It would be the same to secure a 150-egg record; quite a number would necessarily, have to lay 200 eggs each.

While a judicious breeding for good records is to be commended, at the same time it is more advisable to have our hens average 120 eggs a year, a flock record, and remain in good, sound health, than it is to have their systems drained of vitality in the race to pass the 200 mark.

If all the energies are to be put in the direction of eggs, what will become with the supply of meat? If we spend our food and attention in the direction of creating ideal meat carcasses, we certainly cripple our egg yield, and vice versa. Furthermore, if our hens are bred up to the top notch of egg production, surely the fertility will be hurt, and there will be weak and puny chicks.

For years the plan of the writer has been to each year pick out his best hens to breed from. These are birds that not only show good characteristics of the breed, but also have done good laying, as pullets. Trap nests have been the guide, and these are used, as a rule from January 1 to June 1; and again from October 1 to the end of the year. Occasionally they are used in some pens the entire year, but that is done only where a special test is made of a new selection, or a new breed. What we wish mostly to know is not so much how many eggs a hen will lay in a year, as how many she will lay in winter when the prices of eggs are the highest. From the latter stock we breed. During the summer months the traps are discarded, and only open nests are used.

Now by selecting our best cold weather layers and breeding from them, we each year increase our winter egg supply. There is more money in it, and it is a fact that our hens, in consequence of our careful selection of winter layers, have become poor summer layers, a condition we would rather have them in than to have a great year-round records and a poor constitution in consequence.

By the use of trap, and by careful selection of the breeding stock, any breed can be bred up to do prolific work.

Now where the great danger comes in is this ambition to secure 200 eggs layers as a flock. The stock is quite

frequently forced by condiments, meat, and other articles of a highly stimulating nature. While it will in many cases produce the eggs, it will at the same time bring an early decline. But by working for a strong winter egg crop we are getting the bulk of our eggs at a certain season and the hen has the rest of the season to recuperate.

Another method adopted by some of those ambitious for great results, is to hatch the eggs from one or more phenomenal layers, and mate up the offspring, brothers and sisters, and repeating for two or three years. We do not know of a more sure way to deteriorate the stock than in such inbreeding. It may bring good results the first year or two, but it cannot hold out, and the collapse will be as it is in the cases of the prize fighter, which we have used as an illustration.

North Dakota Farmer,
Lisbon, N. D.

Gentlemen:

The food situation is of special interest at this time and poultry and eggs, etc., are of great importance. Thinking that statistics we have gathered from time to time would help somewhat to understand the situation, I wish to give you the following:

Out of 5298 reports, reporting flocks on farms, in small towns, etc., and from all over the country, we find that the average flock of hens is 107. This compares with a similar canvass which was made by us in 1914, the average flock in 1914 was 146. In a way this backs up our assertion that poultry and egg prices will continue high and that eggs the coming fall and winter will be higher than they were last year.

Manipulation has probably done something to prices, but in the case of eggs, the greatest trouble is the supply. People have neglected to keep up their flocks. If flocks were decreased only by the number of the non-producing fowls, the egg production would remain as usual. But in our investigations, we find that people have simply sold off a part of their flock without any particular selection of the unproductive stuff.

Very truly yours,
H. H. JOHNSON.

WAR TIME SUGGESTIONS

In "Emergency Poultry Work" of
Purdue University Department
Agricultural Extension

To producers:

1. Raise every chick hatched. Next winter's egg and meat supply depends

on the care given the growing chick this spring and summer.

2. Keep every early hatched pullet for egg production next fall and winter, when eggs will be high.

3. Hatch all possible chicks this spring. Late hatch is permissible this year if the late hatched chicks are used to increase the country's meat supply. Late hatched pullets will not make early winter layers unless given exceptionally good care.

4. Keep all hens until about Sept. 1st. It does not pay to sell laying hens in the spring or early summer, for their eggs are of more value than the few extra cents per pound obtained at this time.

5. Do not sell early hatched cockerels as broilers under two to three pounds in weight.

6. Caponize late hatched cockerels to put on the market next winter, when meat will be scarce.

BIG MISSOURI ROSE COMB RHODE ISLAND REDS. Three choice pens. Five eggs from each pen for \$1.50. Blue Ribbon Strain, heavy winter layers. J. C. Guyer, Mandan, North Dakota.

PURE BRED S. C. Buff Orpington Eggs for hatching thru May and June, \$1.25 per 15. Mrs. Lydia Skeels, Westby, Mont., Box 72.

FOR SALE: Cockerels and Eggs. Eggs from thoroughbreds. Turkeys, Geese, 7 kinds of Ducks, Pearl and White Guineas, Bantams, Leghorns, Houdans, Hamburgs, Games, Minorcas, Cochins, Buff and White Orpingtons, Silver Laced and White Wyandottes, Barred, White and Buff Rocks, Light Brahmas, Langshans, Rhode Island Reds, Hares, Rabbits, Fancy Pigeons, Guinea Pigs, Dogs. Write wants. D. L. Bruen, Platte Center, Nebraska.

EGGS for Hatching from our prize winning Rose Comb Brown Leghorns, Rose Comb Rhode Island Reds and Single Comb Black Minorcas. \$2.00 per 15. Peter H. Levey, Fountain, Minn.

EGGS. PURE BRED S. C. W. Leghorn. Golden, White, Partridge, and Silver-laced Wyandottes. Rose Comb Island Red. Guineas. Runner and Pekin Ducks. Setting \$1.25; 100, \$6.00. B. Turkey, nine \$2.50. All eggs prepaid.

JOSIE ZENG

Walnut Grove, : : : : Minn.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. MICHAEL K. BOYER, Box 27, Hammononton, New Jersey.

FOR SALE. Purebred Barred Rock Hatching Eggs, \$1.50 and \$2.50 per 15; \$7.00 and \$11.00 per 100. No cockerels left. Laurel Hill Farm, Westby, Mont.

Hatching Eggs from a good strain of Pure Bred S. C. Rhode Island Reds, 15 for \$1.50; also a few Cock Birds and Cockerels for sale. E. N. Hedahl, Mercer, N. D.

FOR SALE. Well Bred Up R. C. Reds. First prize winners; cockerels, \$1.25. Mrs. John Henderson, Bx 228, Beulah, N. D.

PUREBRED BARRED PLYMOUTH ROCK eggs. One setting of 13, \$7.50 100 eggs, \$4.50 prepaid. Otto L. Albertson, Nunda, S. D.

White Langshan eggs, \$3.50 setting, F. Runner Ducks \$1.50 setting. Selma Shanander Dayton, Iowa.

FOR SALE. Silver-Laced Wyandottes. Eggs and baby chicks Mrs. Thos. Brady, Lansford, N. D.

Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. O. A. Barton, Valley City, N. D.

7. Sell all old roosters in June, so that every egg produced this summer will be an infertile egg. Doing this one thing will save thousands of dozens of eggs, usually spoiled by hot weather because they are fertile.

8. Take good care of the summer eggs. See that they are gathered daily from clean nests, and kept in a cool, sweet cellar until sold. Sell at least twice a week in hot weather, and insist that they are bought on a quality basis. Know that every egg you sell is a good egg.

9. After harvest get the poultry buildings in shape for winter use. Many farm poultry houses need remodeling, and a few dollars spent in doing this will be returned in extra eggs next fall and winter. For best results pullets will have to be placed in the laying house early in the fall and not disturbed thereafter, so do not put off repairing their house.

To consumers:

1. Help increase the food supply of the country by keeping a flock of a dozen hens in your back yard. A very little grain added to your waste garden products and table scraps will feed them.

2. Insist that your merchant candle every egg he sells you. You are entitled to quality when you pay for it.

3. Help reduce cost of your eggs next winter by "preserving" them in water glass or lime water during April, May or June. For one or two cents a dozen you can keep these eggs until next winter. If you do not care to do this, use cold storage eggs next winter for all cooking and some eating purposes. They are good eggs, much better than most people imagine.

4. Do not give up the use of eggs, for they are an economical source of food. They can take the place of meat in the diet, and contain food values which are not found in any other natural product.

U. S. Publications

Capons and Caponizing.....	F. B. 452
Hints to Poultry Raisers.....	F. B. 528
Important Poultry Diseases.....	F. B. 530
Boys' and Girls' Poul. Clubs F. B.	562
Poultry House Construction.....	F. B. 574
Nat. and Artificial Incubation F. B.	585
Nat. and Artificial Brooding F. B.	624
Simple Trap Nest for Poultry f. b.	682
Squab Raising.....	F. B. 684
Duck Raising.....	F. B. 697
Goose Raising.....	F. B. 767
Turkey Raising.....	F. B. 791
Mites and Lice on Poultry.....	F. B. 801

Reported available for free distribution. Send all requests to Editor and Chief, Division of Publications, U. S. Department of Agriculture, Washington, D. C.

School and Home

HINTS FOR YOUR PICNIC

All sandwiches should be spread with softened butter (not melted to make it soft), but creamed with a fork. This allows it to spread easily without tearing the bread and with no waste of butter. While one of the children is busily creaming the butter, a little flavoring may be added, which greatly improves the spread. This may be either in liquid form, like lemon juice, or may be minced herbs, such as finely chopped parsley, for example. And bread spread with parsley butter does give a delicious flavor to an egg sandwich. Likewise, a few drops of lemon juice added to the butter aids toward the enjoyment of the sardine sandwich. A sour pickle, minced, in combination with the meat filling is another delectable addition.

Some stoned dates, put thru the food chopper and gradually mixed with the creamed butter, give a date filling that will delight the kiddies, and grown-ups too. A few nut meats can be chopped with the dates, and the result, with the creamed butter, will be delicious filling and most nutritious also.

The bread should be one day old, and the knife exceedingly sharp. Cut the bread into quite thin slices, then lay them in a pile and remove the crust. This always gives a daintier sandwich and does not mean a waste, as the crusts may be utilized in a bread pudding, a stuffing, or dried in a slow oven and rolled into crumbs.

The hard-boiled eggs are far easier to digest if they are placed in a deep saucepan, well covered with cold water, and brought slowly to the boiling point. Then cover the saucepan and move it to where the water will not boil and leave the eggs in this hot water for thirty minutes.

Some people consider a salad impossible for a picnic, but nowadays, with the number of paper dishes that are on the market, a salad may safely be included in the picnic menu. A good method in preparing the salad is to mix everything in a large bowl, have several quart fruit jars ready, equipped with rubbers, and fill these jars full of salad. Seal the jars tightly and keep them on ice until ready to pack the luncheon kit. If each jar is wrapped in a towel wrung from cold water, the contents of the jar will

keep surprisingly cool for some time.

The salad combination may consist of canned salmon and a Mayonnaise Dressing, a little lemon juice added to the fish giving a pleasing flavor, or the plebeina potato salad, with a generous supply of minced onions, will be most acceptable. Only please remember that a potato salad should be dressed while the potatoes are quite hot, as then the dressing soaks into the vegetable, which is a great improvement. Any cold meats left from a previous meal may be combined into a salad; or a mixture of cooked cold vegetables, like carrots and potatoes, diced, beans cut into small pieces, and some cooked peas, all well moistened with either a Mayonnaise or a French Dressing.

Tartare Sandwiches

Six tablespoonfuls minced hard boiled eggs, one teaspoonful chopped capers, one tablespoonful chopped cucumber pickle. Mix the above to a paste with Mayonnaise dressing and spread on circles of bread

FROCKS OF NET FOR SUMMER

Organdy, Batiste and Crepe Also Combine With Net

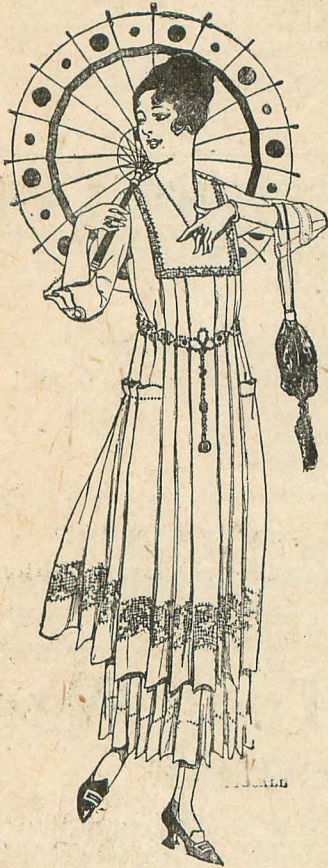
The New Military Cape-Coat

The days are fast approaching when nothing but the sheerest of frocks will satisfy our demands for something cool and airy to temper the hot spells of summer. From the number of net and lace frocks that are presented for the summer season, it would seem that Fashion has foreseen these demands.

In a measure, the revival of laces is due to the war, since the lace-making industries are being encouraged in Europe to give work to the widowed women and girls. This, naturally, applies to the more expensive laces, but there will be laces of all grades used for summer frocks. Cream, ecru and white laces and nets are received with equal enthusiasm. Over pale-colored slips of China silk or over the same net, these dresses are most fascinating. Very pale pink is particularly charming under cream or ecru, which is one of the combinations most frequently seen.

The all-white net dresses trimmed with batiste embroidery banding are also very delightful, but this is only

one of the many combinations used. There are many frocks of net in which organdy plays an important part. Some of these are made in apron effect with embroidered organdy forming the long apron which sometimes



A Cool, Summery Dress Trimmed With Filet Lace

extends considerably below the knees. The apron style is now very much in vogue and is decidedly attractive in laces and sheer materials. In some of its variations, it is more like a long, loose panel than an apron.

Georgette crepe is another material which combines very successfully with net. In many of these sheer frocks, ribbons of any color the wearer may fancy are arranged on the foundation to add a touch of bright color to the costume. In other models, the color note is supplied by embroidery, usually in the softest colors to carry out the delicate beauty of these dresses.

The Indefinite Waistline

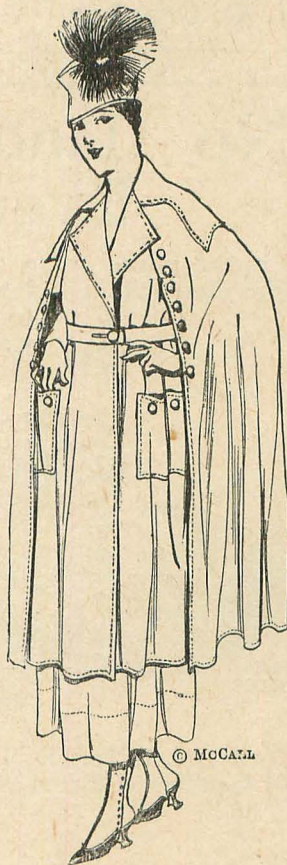
The tendency to do away with a thoroly defined waistline is still prominent in the new styles, and this feature persists while the texture of the dresses is being changed from the heavier materials of spring to the sheer cottons and nets of summer. The long, unbroken lines that women have found so becoming are noticed in the dress of net trimmed with filet lace shown in the sketch.

The tunic again holds sway. But the present tunic differs somewhat from those of former days. The new dresses in tunic effect hang straight from the shoulders. The foundation over which a tunic dress is worn, generally has a pleated or gathered section extending below the tunic. In the case of the model illustrated, pleats accentuate the straight lines, while the upstanding heading at the sides, which is also pleated, tends to break any suggestion of monotony.

Apart from the use of lace and net in making entire dresses, in small proportions we find them used either together or independently in many costumes. Large jabots of net or lace with high collars are worn with tailored suits, the jabot spreading itself over the front of the coat and lightening up the dark suits.

The Cape-Coat

A very popular wrap for summer is the cape-coat, some varieties of which are made without back or sleeves. The cape is usually the same length as



The Military Cape-Coat is Highly Popular

the coat tho sometimes it is longer. These capes are seen everywhere, and the inevitable navy-blue serge or gabardine is usually the material chosen for them. It is in the linings that there is a chance for variety. Some of the capes are lined with white or

cream cloth, and others with silk of the same color as the cape or a brightly contrasting shade. Navy-blue foulard with the large white polka dots which has been so much in evidence since the spring is very frequently employed for the linings and collars. The collars are large in most cases. In some models they are gathered in front and are very pretty in soft, striped or plaid silk. In satin or heavy silk poplin these wraps are ideal for summer use.

A great number of military capes and coats, which may be taken as a sin of the times, are also to be noted at present. Gold buttons and braid, and high collars buttoned straight up to the neck are some of the indications of the military strain.

FOOD CONSERVATION AND SEED RESERVE

The Secretary of Agriculture, D. F. Houston, issued the following statement on June 11:

Cooperating as we are with the nations of Europe in the war against the Central Powers, the task of maintaining the subsistence of the Allies is at once a political and moral obligation and a military necessity. War is always destructive of production and, in a peculiar sense, it is destructive of production of foodstuffs, since war leads to scarcity of labor and labor is one of the chief factors in the cultivation of the soil. In addition, the wheat-crop of practically the entire world has suffered serious reduction during the past year; and the prospects for the coming year promise little or no increase in the production of this essential cereal.

One of two courses lies open to our Government. The first is to continue as we are doing at present, that is, to permit unhampered the abnormal operations of trade, rendered all the more abnormal because of the needs of the Allies for foodstuffs from this country. The second plan consists in the regulation or control of our foodstuffs to the double end of maintenance of the subsistence of the Allies and the protection of the food needs and commercial interests of our own people.

Two bills now pending in Congress provide for systematic development of our productive forces and an adequate control of distribution and consumption, to the end of conserving for ourselves and for the Allies the foodstuffs provided thru the stimulation of agriculture.

The two bills, known as the "food production bill" (H. R. 4188), and the "food control bill" (H. R. 4630), are designed to place in the hands of the

administration emergency powers and funds adequate to accomplish the necessary ends. The production bill provides for the extension of the normal activities of the Department with a view further to stimulate the production and to conserve the supply of food-stuffs. The bill is framed as a war measure. It authorizes the Secretary of Agriculture to make a survey of the food supply of the nation, in order to secure full and accurate information regarding its quantity, location, and ownership, as well as knowledge of the instrumentalities or agencies that own, control, manufacture, and distribute food products. Authoritative information as to the supply of food available in the United States always is of the highest importance. It is imperative in the existing emergency, when soaring prices create unusual motives for manipulation, and hoarding. Intelligent increase of production and equitable distribution depend upon thoro and reliable knowledge of the food supply. This survey can be quickly made. It will probably be followed by monthly reports. If the war lasts, a further survey may be made after an interval of five or six months. All this work, it is contemplated, can be done for \$500,000 or \$600,000.

The bill also authorizes the Secretary of Agriculture, in case of special need in restricted areas, to purchase, grow, or otherwise procure seeds for the production of food or feed crops; to store them; and to furnish them to farmers on credit or other terms at cost. Power also is given to requisition such seeds and to fix a reasonable price to be paid for them by the Government, such price to be subject to review by the courts. These new powers are required by the Department of Agriculture to meet special emergency needs that may arise on account of adverse conditions, such as storms, plant diseases, or insect injury, in order that production may be maintained at a high level. It is also necessary to protect the seed reserve from use or depletion for industrial or consumptive purposes.

BULLETINS THAT WILL HELP YOU SAVE FOOD

The following bulletins, containing much valuable information regarding the saving of food, may be obtained free by writing to the Division of Publications, U. S. Department of Agriculture, Washington, D. C.:

"How to Select Foods," F. B. No. 808.

"Preparation and Use of Vegetables for Table," F. B. No. 256.

"Economical Use of Meat in the Home," F. B. No. 391.

"Corn Meal as a Food and Ways of Using It," F. B. No. 565.

"Cheese and its Economical Use in the Home," F. B. No. 487.

"Care of Food in the Home," F. B. No. 375.

PRESERVING EGGS

Eggs gathered now can be kept till

next winter in a solution of water and waterglass. Mix 9 parts boiled water to 1 part waterglass. Put into a jar. Select fresh clean eggs and place in the solution. Keep the jar covered and in a cool place. It may be necessary to replace water if it evaporates. Eggs kept in waterglass should be pricked with a pin before boiling to prevent cracking of the shell.

NORTH DAKOTA SCHOOL LAW

For the first time since 1911 has the State published a volume of the School Laws, and not until 1919 will another edition be printed by the State.

WOULD YOU KNOW

For what reasons a pupil may be suspended or expelled?

Whether one is allowed to read the Bible in school?

What branches must be taught every day?

For what purposes the school house may be used?

Who may vote on school matters and what are the voters' qualifications?

How schools may be consolidated?

What recourse one has if he is not satisfied with the ratings of the examining board?

Whether free text-books may be adopted without a vote?

What to do when a pupil or parent disturbs the school?

What provision is now made for transportation of pupils?

How pupils may be compelled to attend school?

Whether children may be employed in stores and factories?

How a certificate may be revoked?

What the law is regarding drinking cups, fire escapes, hitching posts, school libraries, pension fund, accredited diplomas, etc.?

THEN ORDER A COPY OF THE LATEST SCHOOL LAWS
Price, post paid, 35 cents, including the 1917 Enactments

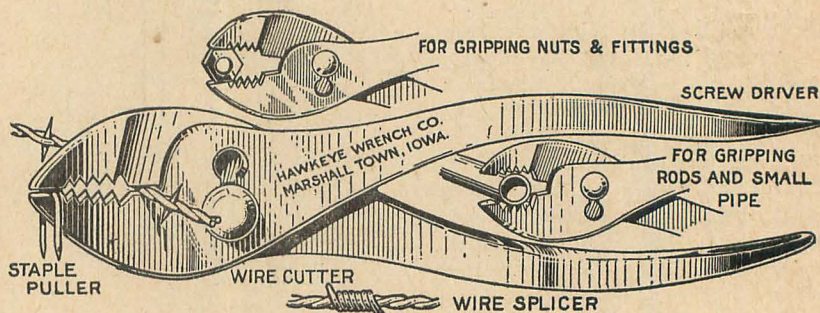
W. G. Crocker,

Lisbon, North Dakota

No Handier Tool Was Ever Invented

For the home or on the farm. Note the different uses. The identical tool you pay 35 cents for at the hardware.

Do You Want It?



North Dakota Farmer, Two Years	\$1.50
Six-inch Nickel Plated Pliers35

\$1.85

North Dakota Farmer Two Years and Pliers, Only **\$1.10**

THE PLIERS WILL BE SENT POSTPAID.

Note: If preferred a pair of self-sharpening shears will be substituted.

North Dakota Farmer

LISBON,

NORTH DAKOTA

HOW TO CAN VEGETABLES

Vegetables for canning must be of good quality and freshly gathered.

Wide mouthed glass jars are the best to use for putting vegetables up in. It is well to use different sizes—quarts, pints, and a few one-half pints and two quarts. The essential thing is perfect cleanliness which means sterilization, so there will be no bacteria to produce fermentation. If jars are used with rubbers, be sure to use new rubbers every time the jars are used; and with those with metal tops sealed with wax, it is essential that new tops are used each season.

If a large quantity is to be canned at one time use a wash boiler and put a rack in the bottom; if no rack is available lay strips of wood across the bottom so that the jars will not touch the bottom of the boiler or kettle. Do not let the jars touch each other. If there are only two or three jars to be filled at one time, a large kettle will answer the purpose.

To Can Peas

Wash and shell the peas, pack as compactly as possible in the jars, fill with warm water and put on the tops without the rubbers, set them on the rack and pour in enough warm water to more than half cover the jars, and keep the water at that height all the time they are cooking. Heat the water gradually to the boiling point and let it boil gently one and one-half hours. Take the cover off of one of the jars and try the peas by crushing one between the thumb and forefinger; if it is soft add one teaspoonful of salt to each quart of peas and cook one-half hour longer (if not soft cook a while longer and try again). Put on the rubbers and screw or clamp on the tops and cook ten minutes longer. Remove the jars from the water, wipe dry, turn upside down and let them remain so until cool. If on turning the jars right side up water is found under any of the jars, it shows that the jar is not air-tight and will have to be reheated and a new top used.

To Can Lima Beans

Follow directions for canning peas.

To Can String Beans

Wash, and remove the strings (the best way to do this is with a sharp knife), cut in pieces about an inch long. Pack in jars pressing them in compactly, fill jars with warm water and proceed the same as for peas. When they can be easily pierced with a wooden toothpick they are cooked enough; add a teaspoon of salt to each quart and cook fifteen minutes longer.

To Can Asparagus

Wash the stalks and cut them all to

a uniform length, place them with the tips upward in the jars; cover with warm water and proceed the same as for peas.

BOYS AND GIRLS HELP

Pig-Club Boys and Girls Render Patriotic Service and Make Money at the Same Time.

The boys and girls on the farms and in the towns and villages can be of great service to Uncle Sam by producing pork. The young people between 10 and 18 years of age are eligible to the pig clubs and a great many of them are not at present doing anything for their country. If every boy and girl on the farm between the above-mentioned ages would make it his or her duty to feed and market one pig, there would be enough pork furnished from this source alone to feed a large army of men. A large number of boys have the facilities for feeding several hogs where none are being fed at present. Some of the pig-club boys are feeding as many as 35 or 40 head of their own and many are feeding their father's herds of many more than that.

Most of the boys that are not in the pig club do not have the pigs and do not know where to obtain them. There are thousands of small pigs and breeding sows being sent to market every day that should stay on the farms. Many of the sows should be kept to produce more pigs next fall. These small pigs could be profitably fed to make larger hogs even at the present prices of grains. The problem is to get these small pigs and sows into the hands of farmers and farm boys and girls that want them. There are county agricultural agents in many of the counties who know where these hogs are, and can get them before they are sent to market. If there is no county agent, the next man to appeal to is the banker. Many bankers know who have hogs to sell. If the county is short of hogs, the state club leader or the extension force at the agricultural college may be able to direct an inquirer to a breeder or a county agent in an adjacent county who has hogs to sell.

Grain and other swine feeds are scarce and expensive, but hogs can be grown and fattened with the use of little grain. The most profitable pork has always been produced when the hogs run on pasture and are fed a light ration of grain in addition. In every section of the country there are forage crops that will grow and make good hog pastures. By planting them now they should make good hog pasture during the summer. Even if

there is no county agent in a county, there are a few progressive farmers in every community who know what crops are best and how best to plant them. Boys who have no hogs should plant their hog pasture first, and get their pigs later.

Boys who have no pigs nor money with which to buy them should ask a banker for help. He will usually be glad to help worthy boys who are trying to help the country in this emergency. Many of these bankers have asked the Department of Agriculture this year as to the best methods that have been used in furnishing boys money with which to purchase pigs. They are much more willing to do this if they know that the boy or girl belongs to a pig club and is going to follow the instructions of a swine specialist or some one who has scientific training in the growing and fattening of swine.

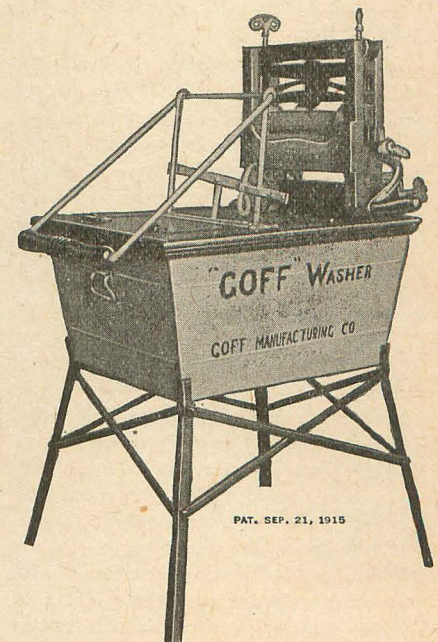
By joining the pig club the boys and girls will not only be able to make more money for themselves, but will also be rendering a patriotic ser-

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for \$1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.



PAT. SEP. 21, 1915

IF YOU ARE FROM MISSOURI or any other State we can show you that the Goff Washing Machine is the greatest washing machine ever invented. Simplicity, efficiency and durability. No cogs, no springs, no wheels or gears, nothing to get out of order, washes quick clean and easy. Sold direct from Factory to user. Price \$10.35 prepaid to your station. Satisfaction guaranteed or money refunded, (guaranteed 5 years) mail order direct to

GOFF MANUFACTURING CO, Inc.

Harvey, : : : : : Iowa

vice to the country. Every boy or girl between the ages of 10 and 18 years can join Uncle Sam's pig-club army. Those wishing to join the pig clubs should ask their parents, teacher, or county agent how to do this, or write to the extension division of the State agricultural college for instructions.

HINTS FOR THE HOME GARDENER

The home gardener must count almost inevitably upon the presence in his garden of plant diseases and pests, says a new Farmers' Bulletin of the U. S. Department of Agriculture, No. 818, "The Small Vegetable Garden." It is pointed out that if these are not combated they will interfere seriously with yields or even destroy the plants.

It is hard for some gardeners to realize the importance of making early provision to combat these enemies of plant life. It can not be too strongly emphasized, however, that such provision is of equal importance with other phases of gardening and that it should under no circumstances be neglected. The wise gardener does not wait for the appearance of insects and diseases, but takes steps to combat them by spraying the plants at reasonable intervals from early spring until his crops have been harvested, or by other protective measures. He thus insures himself against the likelihood of loss.

The necessary implements and materials for protecting the home garden against insects and diseases should be assembled early in the season. These consist of a substantial hand sprayer and the necessary concentrated solutions, which, after dilution with water, are to be sprayed on the plants.

The diseases which affect garden plants may be divided into two groups, parasitic and constitutional diseases. The parasitic maladies, such as the blights, are caused by fungi or germs, and usually may be prevented or controlled by spraying with Bordeaux mixture. Little is known, however, of the so-called constitutional diseases, and little can be done to prevent their ravages. If some malady which does not yield to treatment with Bordeaux mixture manifests itself on isolated plants in the garden, it may be well to pull up these plants and burn them.

The insects which attack garden plants may be divided into two groups—those which eat or chew the fruit or foliage and those which suck the plant juices. Eating insects may be killed usually by spraying poison-

ous solutions or dusting powders on the plants which they attack. Arsenate of lead is the poison in most general use for this purpose. This substance is poisonous to persons as well as to insects and must be used with care. It should not be applied to vegetables that are to be used soon. All vegetables should be washed carefully before they are eaten, regardless of whether they have been sprayed.

Most of the garden plants may be guarded against disease and at the same time protected from attack by eating insects by spraying at intervals of two weeks with a combination of Bordeaux mixture and arsenate of lead.

nicotine solutions, fish-oil and other soap solutions, and kerosene emulsion.

The following table lists the insects most likely to appear in the vegetable garden and furnishes information in regard to the plants attacked and the treatment recommended:

Gardeners desiring additional information in regard to insects affecting the vegetable garden should apply direct to the Bureau of Entomology, U. S. Department of Agriculture, but it should be understood that there is no publication covering the entire subject. Specimens of insects with some account of food plants and ravages should accompany correspondence.

The gardener should remember that

Principal Insects and Remedies		
Insect	Plants Attacked	Treatment
Eating Type:		
Tomato worms	Tomato	Hand pick or spray with arsenate of lead.
Cabbage worm	Cabbage group	Hand pick or apply arsenate of lead.
Cucumber beetles	Cucumber	Cover with frames. Apply tobacco dust or spray with Bordeaux mixture or arsenate of lead.
Cutworms	Tomato, cabbage, onion	Apply poison bait; place tin or paper collars around plants; hand pick; apply Paris green or arsenate of lead.
Potato beetle	Potato, eggplant, and tomato	Hand pick and apply arsenate of lead.
Sucking type:		
Squash bug	Squash, pumpkin, melons, etc.	Hand pick; spray with kerosene emulsion or nicotine sulphate.
Aphis (plant lice)	Cabbage group and other plants.	Spray with kerosene emulsion, a solution of hard soap, or nicotine sulphate.

Other methods of protecting plants from the larger eating insects are to pick the pests by hand or knock them with a stick into a pan containing water on which a thin film of kerosene is floating. Insects collected by hand should be destroyed promptly. Young plants may be protected by setting over them wooden frames covered with mosquito netting, wire mesh, or cheesecloth. Cutworms may be kept from plants by setting tin or paper collars into the ground around the stalks.

Sucking insects, such as plant lice, can not be killed by poisoning the surface of the leaves and fruit, since they feed by puncturing the plants and extracting the internal juices. Poisons which will kill by contact or substances which envelop and smother the pests are, therefore, employed against the sucking insects. The principal remedies of this sort are

many plant diseases and insects exist in the garden from year to year. At the end of the growing season, therefore, the garden should be carefully cleaned of rubbish, the stems of plants, leaves, etc. It is necessary to burn this debris promptly, as any disease spores or insects which may be present are then surely destroyed.

HOW TO MAKE THE GARDEN PAY

This little volume comes fresh from the press this month. To those who are performing their patriotic duty by planting a garden, this book will prove worth many times its cost. Directions are given for the planting, care and protection of all the common vegetables. About forty pages are devoted to insect enemies and diseases. Price 60 cents net. Published by Houghton Mifflin Company 4 Park St., Boston, Mass.

Seasonable Receipts

Mrs. Sadie Baird, Editor

FRESH BEEF TONGUE BOILED

Trim away the root of a beef tongue and wash well. Drop into hot, well-salted water to cover. Add some red pepper. Cook slowly but steadily until a fork thrust into it can be easily turned around. After the meat has cooked one and one-half hours, put in the kettle one tablespoonful lemon juice or two of strong vinegar. When well cooked, remove from kettle, skin, spread over with butter, sprinkle with bread crumbs and put in oven to brown slightly. Garnish with spinach, cress or celery tops, and serve with this sauce. Season one pint of drawn butter (that is, milk, butter and flour, rubbed together and cooked until thick), two tablespoonfuls of vinegar or one each of vinegar and lemon juice, one teaspoonful of capers or finely chopped pickles, and a half teaspoonful of onion juice. If the tongue is served hot the sauce should be hot; if cold, the sauce should be cold.

BAKED INDIAN PUDDING

Stir into a cupful of yellow corn-meal a half teaspoonful of salt. To this add, gradually, a quart of boiling water, beating hard to avoid lumps. Have five cupfuls of milk heated in a double boiler and stir into this the meal. Boil for an hour, beating often. Beat four eggs light, adding to them a half-cup of molasses, a tablespoonful of melted butter and a quarter-teaspoonful each of ground cinnamon and nutmeg. Take the meal mixture from the fire and add it gradually, beating steadily, to the beaten eggs. Turn all into a deep pudding-dish, well greased, and bake, covered, for nearly an hour, then uncover and bake to a golden brown. Serve with hard sauce.

TO CAN PIEPLANT

Wash and cut tender young pieplant into half-inch lengths. Select a granite pan of the desired size, put a layer of the pieplant in the bottom, cover with sugar, add another layer of pieplant, another of sugar, and continue in this manner until all is in, having sugar on top. Put in a moderate oven and bake until the pieplant is tender. Put into sterile jars and seal. Use pieplant and sugar in the proportion of one cup of sugar to one and one-half quarts of the pieplant.

Do not stir the material, as stirring

breaks the pieces of pieplant and gives it a mussy appearance.

Pieplant canned in this manner is much superior to that cooked on top of stove.

WEDDING CAKE

Cream a pound of sugar with a pound of butter and add a dozen beaten eggs to the mixture. Stir in two teaspoonfuls each of powdered nutmeg, cloves and cinnamon, a pound of flour, a pound each of cleaned currants, and seeded and chopped raisins and a half-pound of minced citron, taking care to have the fruit well dredged with flour. Last of all, add two tablespoonfuls of rose-water or a wineglassful of peach syrup, and turn into a well-greased tin with a funnel in the middle. Bake in a steady oven, covering the cake with paper for the first half-hour, until a straw comes out clean from the thickest part of the loaf.

GINGER SNAPS

Three measures of the flour of energy; three-fourths measure of the butter of self-confidence; one measure of the molasses of politeness. Season with the ginger of never-give-up. Spice to taste with sense and humor. Make light with desire mixed in hope.

Stir all together. Roll out with the rolling-pin of difficulties held well in hand, and cut into cookies of convenient size for daily use.

If there is no fire of opportunity started, make one, and bake till the energy in them snaps.

SALMON LOAF

One can salmon, one cup boiled dressing, one tablespoonful gelatine. Turn the salmon into a bread tin and stir with the dressing. Place gelatine in a saucer over a boiling kettle until melted, then add to the first mixture. When the loaf has hardened, it may be served in slices or made into delicious sandwiches.

STRAWBERRY PUDDING

Toast and butter slices of stale bread, and arrange in layers in a buttered pudding dish, with plenty of strawberries between the layers. Sweeten the berries to taste. Bake half an hour, and serve hot. Don't be too

economical with your berries, for they must supply sufficient juice to make the toasted bread into pudding.

STRAWBERRIES AND BANANAS

Fill a deep dish with alternate layers of strawberries and sliced bananas, sprinkling powdered sugar over every layer. Pour over all a cream made by whipping together one pint of cream, the whites of three eggs and one cupful of powdered sugar. Flavor this cream with strawberry juice.

STRAWBERRY ICE

To a quart of strawberries add one pound of sugar, and the juice of two lemons. Mash well, let stand about half an hour, perhaps longer, and strain. Add a quart of ice water, turn into the freezer and freeze to a consistency desired.

Pie Plant Pie

1 cup sugar, 1 cup chopped pieplant, yolks of three eggs. Use whites for meringue.

For the invalid



as well as
those in
perfect
health

Baker's



Cocoa

is an ideal
food
beverage,

pure,
delicious
and
wholesome.



Walter Baker & Co. Ltd.
ESTABLISHED 1780 DORCHESTER, MASS.



Which Will You Have

Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.75 per gallon. The other will cost perhaps as little as \$1.75 per gallon, but the Mound City Horse Shoe Brand at \$2.75 per gallon will cost you less in the end.

Reason? Simple enough.

Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.75 kind.

In other words, you invest \$16.50 in "Horse Shoe Paint," against \$17.50 in the cheaper grade.

Not only this, but the Horse Shoe Brand is bound to outwear the other two to one, making the Horse Shoe Brand far more economical in the end.

You save on the total cost of material.

You save in labor, because of the long life of the Horse Shoe Brand.

You save once more in the satisfaction of knowing that your property is beautified and protected with the highest quality of painting material that modern skill and science has yet developed.

AGAIN!! Mr. Property Owner—

Which will you have?

Mound City "Horse Shoe Brand" Paint

Sold only by

Paint, Hardware, Lumber and Drug Stores

Write for name of your nearest dealer

Mound City Paint & Color Co.

MANUFACTURERS - ST. LOUIS, U. S. A.

NORRIS B. GREGG, Pres.

WM. H. GREGG, Jr., Vice-Pres.

E. H. DYER, Sec.